900 7th Street, NW, 2nd Floor
Washington, DC 20001
www.dcrb.dc.gov

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E-mail: dcrb@dc.gov

OPEN SESSION

NOTICE OF REGULAR BOARD MEETING
JOSEPH W. CLARK, CHAIRMAN

THURSDAY, DECEMBER 20, 2018
1:00 PM

AGENDA

1:00 PM — I. **CALL TO ORDER AND ROLL CALL**

II. **APPROVAL OF BOARD MEETING MINUTES FOR NOVEMBER 15, 2018**

III. **CHAIR'S COMMENTS – ACTION ITEM**
- CERTIFICATION OF ACTIVE POLICE OFFICER ELECTION RESULTS

IV. **EXECUTIVE DIRECTOR'S REPORT**

V. **INVESTMENT COMMITTEE REPORT -- ACTION ITEMS**

VI. **OPERATIONS COMMITTEE REPORT -- ACTION ITEMS**
- **PRESENTATION:** ACTUARIAL VALUATION RESULTS, OCTOBER 1, 2018
- **PRESENTATION:** FY 2020 OPERATING BUDGET
- COMPREHENSIVE INSURANCE PROGRAM
- INSIGHTFUL PENSION CONSULTING GROUP, LLC

VII. **BENEFITS COMMITTEE REPORT**

VIII. **LEGISLATIVE COMMITTEE REPORT**

IX. **AUDIT COMMITTEE REPORT**

X. **OTHER BUSINESS -- EXECUTIVE SESSION**

3:00 PM — XI. **ADJOURNMENT**

ADDITIONAL MEETING MATERIALS
- CONFERENCES & MEETINGS LISTING
- TRUSTEES & STAFF TRAINING AND TRAVEL REPORT

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CHAIRMAN'S REPORT

December 20, 2018

TOPIC	UPDATE
Active Police Officer Trustee Election	The election for an Active Police Officer Trustee has been completed. Attached is the notice from Election-America, DCRB's election official, to the Executive Director reporting on the results and providing information on the ballots cast. The purpose of the following motion is to certify that election. **Motion:** To certify Greggory Pemberton as the winner of the 2018 Active Police Officer election. A notice of the election results will be published in the DC Register. Following the publication date, there is a 30-day period during which candidates may contest the results. The winner's term begins on January 28, 2019.
Farewell to Trustee Ross	Given that the results of this election mean that Trustee Darrick Ross will be leaving the Board on January 27, 2019, I wanted to take this opportunity to thank Trustee Ross, on behalf of the Board, for his many contributions over the years. Trustee Ross joined the Board on January 28, 1999, and will have completed 20 years of service at the end of the current term. During his tenure, he served as Chairman in 2004 and 2005, and again in 2009 and 2010. He also served as Sergeant-at-Arms in 2000, 2001 and 2006, and as Parliamentarian in 2007 and 2008. The Board and our members have benefited greatly from his participation.
Special Active Teacher Election	As noted in my November Report, the Special election for the Active Teacher seat on the Board was restarted on November 7, 2018. The results will be presented for certification at the Board's meeting on January 17, 2019. The winner will begin serving out the remainder of the current term on January 28, 2019 (the term ends on January 27, 2021).
New Trustee Orientation	Staff will schedule a new trustee orientation in February for the trustees whose terms will begin in January, and for Bruno Fernandes, our new ex officio member, who joined the Board in September and who represents the District's Office of the Chief Financial Officer.
Board Officer Elections	With the change of Board members expected in January, and their orientation in February, we should consider postponing the appointment of Board Officers until March, as we have done the past two years. With your concurrence, the current Officers will remain in place until then.
Holiday Ethics Memorandum	With the holidays approaching, DCRB's Legal Department circulated a memorandum to staff (copy attached) from the Board of Ethics and Government Accountability, to ensure that everyone receives timely guidance related to holiday gifts and décor. This guidance also applies to trustees.
Review of Election Rules	Staff will review the Board's Election Rules to address and clarify issues that have been raised recently. Any amendments will be presented to you in advance of the next election cycle, which will begin around July 2019.

Remaining Year End 2018 Activities	During the Board's meeting today, you will be presented with information and/or asked to take actions related to: the FY 2020 Budget, the Actuarial Valuation as of October 1, 2018, and the scheduled election for the active police officer (as noted above). The results of the FY 2018 audit and certification of the active teacher trustee election will be presented to you next month. The Executive Director will provide you with an update on the Strategic Planning project in her report.
Sponsored Activities	As noted last month, DCRB's Comprehensive Annual Financial Report (CAFR) includes a Schedule of Trustee Sponsored Activities, where Trustees must disclose their attendance at any meetings, conferences, or other events where the event sponsor waived registration fees and/or covered the cost of travel and/or meals. Trustees must disclose any such activities for FY 2018.
FY 2018 Trustee Travel, Timesheets and Other Materials	Any Trustees who have not yet submitted their timesheets, travel reimbursement requests, travel reports, and any other materials applicable to FY 2018, should contact Deborah Reaves (x3226) or Bonnie Rivers (x3217) as soon as possible.
Waiver of Recourse Insurance Coverage	Trustees should provide Deborah Reaves with their $25.00 payment for the Fiduciary Liability Insurance policy. Checks, made payable to AON Risk Services, are due at the January Board meeting. Any questions should be referred to Deborah Reaves at x3226.
Trustee Position Description and Compensation Review	To assist new Trustees in knowing their duties and responsibilities upon joining the Board, I have asked staff to develop a trustee position description. I will circulate a draft to you for your input as soon as it is completed. I have also asked staff to do a review of trustee compensation practices among public pension systems. The last such review was performed by DCRB in 2005. These matters will be referred to the Operations Committee.
Recommend No Board Meetings in July or August	As you know, it has been the Board's practice not to hold meetings in August. During the past two years, to accommodate summer vacations, there was no Board meeting in July, as well. I would appreciate input from trustees regarding our not having a Board and Investment Committee meeting in July of this year, as well.
Other	**For your information:** ➢ The next Board meeting will be held at **1 p.m. on Thursday, January 17.** ➢ To assure that all meetings will have a quorum, DCRB's Office Management staff poll all Committee or Board members prior to the meetings to confirm attendance. ➢ Please note: While construction continues on the adjacent building, the garage entrance on 7th Street will remain closed. We will follow up with you when we learn of the date that it will reopen. **As a reminder:** ➢ In accordance with a provision in the Trustee Travel Policy, following your attendance at a conference, Trustees are asked to complete a report describing what they learned at the conference and its benefit to the Board. Section 4 of the Conference Travel Report for Trustees and Staff provides space for you to list your ideas and insights gained at the conference. ➢ Notice should be provided to the Chairman and to DCRB staff if you plan to participate at a meeting electronically. The IT staff will provide WebEx information prior to every meeting. ➢ Trustees who receive questions or complaints from members on issues administered by DCRB should contact the Department Chief, who is responsible for the issue rather than departmental staff.

BOARD OF ETHICS AND GOVERNMENT ACCOUNTABILITY
Office of Government Ethics

Darrin P. Sobin
Director of Government Ethics

Holiday Gift-Giving and Gift-Receiving; Holiday Parties; Holiday Decor: A Guide for Executive Branch District Employees[1]

November 2014

The holiday season is upon us, and this is the season of giving and receiving gifts. This season can cause challenges for District of Columbia employees who are subject to the District's strict gift regulations. Please be mindful of them during this holiday season.

If you have any questions about these or other government ethics matters, contact **the Board of Ethics and Government Accountability at 202-481-3411** or bega@dc.gov, or your agency's **Ethics Counselor**. You also may visit the BEGA website at www.bega-dc.gov where you can view the District Ethics Manual, which has been updated to reflect recent changes to Chapter 18 of the District Personnel Manual.

Restrictions on gifts between District employees and from prohibited sources

As a general rule, a District employee may not solicit or accept a *gift* from:

- a subordinate employee, or
- a *"prohibited source"*

In addition, a District employee may not solicit or accept a gift that is given to influence or reward government action.

What is a *gift*? A "*gift*" is anything of value **except**:

- Modest items of food and refreshments, offered other than as part of a meal;
- Food and beverages of nominal value consumed at hosted receptions where attendance is related to the employee's official duties;
- Admission to and the cost of food and beverages consumed at events sponsored by or in conjunction with a civic, charitable, governmental, or community organization, when the admission, food, and beverages are of nominal value;
- Unsolicited advertising or promotional items of nominal value;

[1] This includes all subordinate and independent agency employees. Council members and their staff are subject to a different set of rules under the Council's Code of Conduct. A separate memorandum provides more specific advice for those employees.

- Greeting cards and items with little intrinsic value, which are intended solely for presentation;
- Anything generally available to members of the public; or
- Anything paid for by the District or secured by the District under a contract.

<u>Restrictions on gifts between employees</u>

In general, an employee cannot:

- accept a gift from another District employee who is a subordinate;
- coerce a subordinate to make or contribute to a gift;
- give a gift or make a donation toward a gift for an official superior; or
- ask another employee to make a donation toward a gift for an official superior.

New Exception: On an occasional basis, including any occasion on which gifts ***traditionally*** are given or exchanged (**i.e., holidays**), an official superior may accept a gift from a subordinate if the gift is:

- ◆ An item other than cash, with an aggregate market value of $10 or less per occasion;
- ◆ An item such as food and refreshments to be shared in the office among employees; or
- ◆ An item given for personal hospitality if of a type and value customarily given on such occasions.

<u>Restrictions on gifts from Prohibited Sources</u>

Who is a *prohibited source*?

A "*prohibited source*" is any person or entity who does or is seeking to do business with the **employee's agency;** conducts activities that are regulated by the **employee's agency**; has an interest that may be substantially affected by the performance or non-performance of an employee's official duties; or is an organization in which the majority of its members are described in the items listed above.

Exceptions to the prohibited source rule

Does the gift restriction mean an employee can't accept a gift at all? No. If the gift fits one of the following exceptions, the employee can accept it:

- the gift is from a person with whom the employee has a "bona fide personal relationship" (like a parent, grandparent, childhood friend, etc.);
- the gift is unsolicited and worth $10 or less per occasion (totaling no more than $20 per year), as long as it would not appear to a reasonable person to be intended to influence the employee in his or her official duties; or
- the gift is unsolicited and constitutes free attendance at a widely attended gathering of mutual interest to a number of parties, from an event sponsor, if the employee's

attendance is in the interests of the agency (the Mayor or designee must make a written determination).

What to do if an employee receives a gift from a prohibited source

If a prohibited source gives an employee a gift that doesn't fit into an exception, the employee has three options. First, the employee can return it. Second, the employee can pay the donor the value of the gift. Finally, if the gift is perishable and it is impractical to return it, the employee can share it with the office staff, donate it to charity, or destroy it. **Important Note: sharing the gift or donating it to charity are *one-time only* options with respect to any gift-giver and the gift-giver must be warned about the impropriety of giving future gifts**.

Restrictions on gifts given to influence or reward government action

An employee cannot solicit or accept a gift in return for being influenced in government work (also known as a bribe), or to reward an employee for government action (also known as a gratuity). An employee also cannot accept any gifts or payments from a non-District source for work as a District employee (also known as "salary supplementation"). It should be noted that **NONE OF THE GIFT-GIVING EXCEPTIONS** DISCUSSED ABOVE APPLY IN SUCH CIRCUMSTANCES. THIS PROHIBITION IS ALSO A FEDERAL CRIMINAL LAW THAT APPLIES TO DISTRICT EMPLOYEES. **Bottom Line: District government employees cannot accept tips!**

Holiday parties

Holiday-themed office parties should be held during non-working hours or lunch breaks. The government pays for our time to perform work on its behalf, and we need to devote that time to the government's work, not to a party.

Office parties should avoid the use of government resources, and managers must not require that employees pay for a party or that they attend it. Just as even a nominal gift to a superior on certain special occasions must be entirely voluntary (as set forth above), attendance at a party must similarly be voluntary. Office holiday parties should avoid the express observances of any particular religion.

In general, employees should avoid parties hosted by vendors and other "prohibited sources" because such attendance would be a "gift." On the other hand, if the event falls within one of the aforementioned exceptions to the gift rule, then attendance might be permissible. For instance, attendance at a party where only modest items of food and beverages are served would be permissible. But, a party that included a full meal likely would not be permissible. Employees should check with their supervisors or their agency ethics counselor if uncertain. **The best practice would be to avoid ANY party hosted by a vendor or contractor because of the risk, or even the appearance, that the vendor or contractor is seeking special treatment from the employee or his or her agency.**

Holiday Decor

The holidays are a special time, but employees, their co-workers, and visitors have a right to be safe and comfortable on government property at all times. Although not an ethics issue, employees should be mindful that there are federal and local laws regarding religious displays in and around government buildings. Questions about what may be displayed in common areas and in individual work spaces should be addressed to the Office of Human Rights at 202-727-4559. Safety and other display-related questions should be addressed to building management or to the Department of General Services at 202-727-2800.

Employees at all times are expected to exercise good judgment and office professionalism when celebrating on government premises during this holiday season.

December 10, 2018

District of Columbia Retirement Board
900 7th Street, NW
Washington, DC 20001

Dear Sheila Morgan-Johnson:

The attached report contains the results from the election for the Active Police Officer Trustee for the District of Columbia Retirement Board.

Thank you. It has been a pleasure working with you.

Sincerely yours,

Chris Backert
CEO
Election-America, Inc.

Votes were cast by paper ballot, by telephone, and by internet.

Ballots cast and counted for each candidate are as follows:

Race	Candidate	Votes
Active Police Representative	Greggory Pemberton	177
	Darrick O. Ross	174
	Kamau A. Greene	11

Total number of ballots issued were 3,623 original plus 8 replacement ballots for a total of 3,631.

There were 8 replacement ballots issued and no provisional ballots issued.

The total number of ballots issued, but not cast was 3,269 (3,623 original ballots plus 8 replacement ballots less 362 ballots cast).

Total number of ballots cast and counted was 362.

The total number of ballots cast in each method of balloting:

Votes by Method			
Internet	Paper	Phone	Total
132	165	65	362

There were no blank ballots returned.

There were no ballots returned and invalidated or voided:

- There were no overvotes (meaning a voter selected more than one candidate)
- There were no duplicate ballots

There were no claims of discrepancy or error in the counting of the ballots made during the balloting process.

Greggory Pemberton is the winner of the election.

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DISTRICT OF COLUMBIA RETIREMENT BOARD

MOTION:

TO CERTIFY GREGGORY PEMBERTON AS THE WINNER OF THE 2018 ACTIVE POLICE OFFICERS ELECTION.

PRESENTED TO THE BOARD ON DECEMBER 20, 2018.

DISTRICT OF COLUMBIA RETIREMENT BOARD

ANNUAL OPEN PUBLIC MEETING SCHEDULE

As of January 2019

The District of Columbia Retirement Board (DCRB) holds Open Board of Trustee meetings on the third Thursday of each month at 1:00 p.m., unless specified differently. The meetings will be held in the DCRB Board Room (2nd floor) at 900 7th Street, N.W., Washington, D.C 20001. The meeting place and time are subject to change without prior notice.

NOTICE: Please call one (1) business day prior to the meeting to ensure the meeting has not been cancelled or rescheduled. For additional information, please contact Deborah Reaves at (202) 343-3200 or Deborah.Reaves@dc.gov.

Proposed 2019 Annual Open Board Meeting Schedule

January 17, 2019

February 21, 2019

March 21, 2019

April 18, 2019

May 16, 2109

June 20, 2019

July 18, 2019

August – No Meeting

September 19, 2019

October 17, 2019

November 21, 2019

December 19, 2019

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EXECUTIVE DIRECTOR REPORT
December 20, 2018

Activities	Updates
Strategic Planning	Ralph Smith, of the Orion Development Group, returned to DCRB on December 6, 2018. He met with the ELT to review the initiatives they identified earlier as essential to reaching our goals, and separately with the Implementation Team, to go over the measures definitions and metrics they singled out as important to tracking the progress of those initiatives. We expect to have those two areas completed this month. At the January Board meeting, Ralph will provide Trustees with copies of the draft Strategy Map and proposed Balanced Scorecard, as well as the opportunity to provide their input on the material drafted to date.
Fall Newsletter	The fall newsletter (copy attached) was distributed electronically to active members on December 10, 2018. Paper copies were mailed to annuitants earlier this week. The newsletter includes information about FY 2018 investment returns, Board elections, the health care open enrollment period, a review of yearend tax and withholding issues, and the new Medicare cards. Beginning with this newsletter, we will continue to provide annuitants with paper copies, but active members will receive only the electronic version.
Town Hall Meeting and Holiday Celebration	The ELT sponsored DCRB's annual yearend holiday celebration on December 13, 2018. Preceding the celebration, there was a Town Hall meeting where I gave staff an overview of FY 2018 accomplishments, on-going projects, and our plans for FY 2019 and beyond. The feedback I have received indicates that both the Town Hall and the celebration were a success and very much appreciated.
Review of MOUs	To assure that our agreements with other agencies are up-to-date, staff will be reviewing DCRB's MOU with the charter schools, which was last executed in 2012. We will also be developing an MOU with the Office of Personnel Management (OPM) to cover the work DCRB does for them related to the federal health and life insurance programs. The latter MOU will seek the reimbursement of costs from OPM for DCRB's administrative services for the federal programs.
Staffing Updates	**Departure:** **Johnetta Bond –** left DCRB on November 19, 2018. Johnetta served as DCRB's Chief Benefits Officer since joining the agency on December 3, 2014.

A Publication of the District of Columbia Retirement Board for Active and Retired Police Officers, Firefighters and Teachers

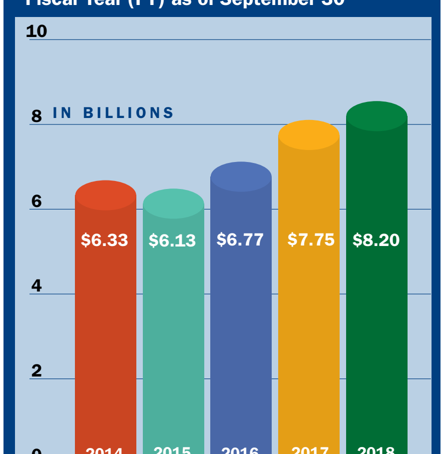
DCRB Report

FALL 2018

Inside

The mission of DCRB is to prudently invest the assets of the District of Columbia Police Officers and Fire Fighters' Retirement Fund and the District of Columbia Teachers' Retirement Fund for the exclusive benefit of the members of the District of Columbia Police Officers and Firefighters' Retirement Plan and the District of Columbia Teachers' Retirement Plan and to provide Plan members with total retirement services.

Total Fund Market Value at the end of the Fiscal Year (FY) as of September 30



From the Chair of the Board

Change in Board Membership


Joseph W. Clark

When Jeffrey Barnette resigned his position as the District's Deputy Chief Financial Officer/Treasurer to serve as DCRB's Chief Investment Officer in August 2018, the District hired Bruno Fernandes to serve in Jeffrey's former position. In that position, Bruno also replaces Jeffrey as the Office of the Chief Financial Officer's ex officio member on the Board. Mr. Fernandes previously served as Vice President-Treasurer at ICF International of Fairfax, Virginia and, before that, he worked in senior financial positions with Computer Sciences Corporation and Intelsat.


Bruno C. Fernandes

Upgrade in District Credit Rating

On July 3, 2018, the District's Chief Financial Officer, Jeffrey DeWitt, announced that Standard & Poor's and Fitch bond rating services upgraded the District's general obligation bond rating from AA to AA+. Later that month, on July 12, 2018, Moody's Investors Service upgraded the District's general obligation rating to Aaa from Aa1, stating that "the upgrade reflects continued strengthening of the District's economy, finances and overall credit profile." Moody's also stated that "the District has exemplary fiscal governance, and its updated four-year financial plan is its strongest ever." Moody's highlighted the fact that "The District already has among the lowest pension liabilities of any large city and has pre-funded its other postretirement benefits (OPEB) liability, which affords it significant financial flexibility."

Investment Returns

During the twelve months ending September 30, 2018, the District of Columbia Police Officers and Fire Fighters' Retirement Fund and the District of Columbia Teachers' Retirement Fund (collectively referred to as the Fund) grew by $448 million to a total market value of $8.2 billion. The growth is net of all benefit payments and administrative expenses.

The Fund's 5.4% (gross of fees) return for the fiscal year was positively impacted by the continued growth in equity markets in the U.S. and foreign developed countries. Fund performance was driven by strong returns in domestic equity, absolute return, private equity, and real estate investments. Fixed income investments were flat for the period overall, but were highlighted by the Fund's noninvestment grade fixed income investments, which exceeded their passive benchmark by more than 6%.

Since its inception in October 1982, the Fund has achieved an annualized gross rate of return of 8.8%, substantially exceeding the Board's annual actuarial return target of 6.5%.

Improvements Benefiting our Members

Over the past year, DCRB has been steadfast in implementing notable improvements for its members; important among them is the production of Benefit Statements

Continued on page 4

Information Especially For Retirees

Calendar Year 2018 Tax Information

At the end of January 2019, the U.S. Department of the Treasury's Bureau of the Fiscal Service will issue 1099-R forms for the payments that retirees and survivors received from the District of Columbia Police Officers and Firefighters' Retirement Plan and the District of Columbia Teachers' Retirement Plan during tax year 2018. Most annuitants will receive only one 1099-R form. However, those of you who are both a retiree and the survivor of a retiree will receive two forms, both of which should be filed with your 2018 tax return.

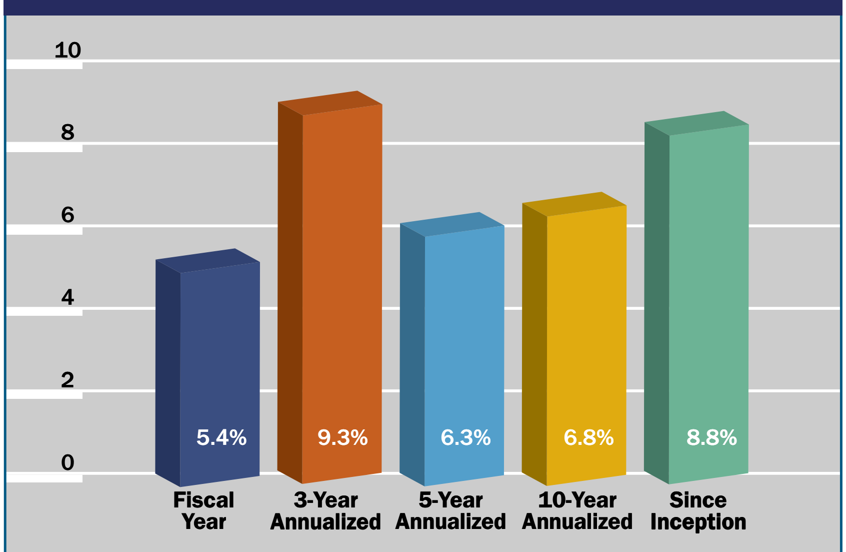
Check Your Tax Withholding Amounts

This time of year is an excellent time to check your earnings statement to assure that the amount of taxes being withheld will cover your tax obligations for the coming year. You have the right to change your withholding amount or to have no federal taxes withheld. Changing your withholding, however, does not affect the amount of taxes you are required to pay. To update your withholding amount, you should complete a Form W-4P and send it to DCRB's Member Services Center (MSC): at District of Columbia Retirement Board, Member Services Center, 900 7th Street, NW, Second Floor, Washington, DC 20001. Blank forms can be requested from the MSC by calling (202) 343-3272 or toll-free at 1-866-456-3272, or you can print forms from the DCRB website at **www.dcrb.dc.gov** (under Member Forms) or the IRS website at **www.IRS.gov**. Active members who wish to make withholding changes need to file a Form W-4 with their payroll office.

Change of Address or Direct Deposit Account

If you plan to move or you have already done so, you should contact the DCRB MSC with your new address (and bank change information, if applicable) as soon as possible, to assure that you continue to receive your benefit payments and tax information promptly. You can reach the MSC by calling the numbers listed above. You can also retrieve forms for making address or direct deposit changes by accessing DCRB's website (see prior paragraph) and printing out the form(s) you need. The completed form(s) should be sent to the MSC at the address noted above.

Total Gross Fund Returns as of September 30, 2018



2018 Board of Trustees Elections

An election is in progress for the Active Police Officer Trustee term that will begin January 28, 2019. Initial materials were sent to eligible active police officers by DCRB's new election official, Election-America, Inc., on August 31, 2018. This year's election will permit eligible members to cast their ballots via paper, telephone, or online. The winner of this election will be certified at the December 2018 Board meeting.

Additionally, due to a vacancy on the Board, DCRB is holding a special election to fill the Active Teacher Trustee seat on the Board. This election began on November 7, 2018. The winner of this special election will be certified at the January 2019 Board meeting and will serve from January 28, 2019 through January 27, 2021, the end of the current term.

If you did not receive a ballot or you have any questions about the elections, you should call Election-America, Inc. at 866-877-3125.

Health Care Open Season

The District of Columbia Office of Human Resources (DCHR) and the Federal Government's Office of Personnel Management (OPM) have announced that their respective health care open enrollment periods are taking place between Monday, November 12 and Monday, December 10, 2018. This is your annual opportunity to review your current benefit elections and make any desired changes.

Open Enrollment informational packets, which were mailed to eligible members during the week of November 9, contain details about the health plans, premium amounts, and dates of health fairs scheduled to be held in various locations during the enrollment period. For more information on District and federal health care plans and open season enrollment, please visit DCRB's website at **www.dcrb.dc.gov**, and click through the "Health Benefits Open Season" announcement at the top of the homepage. There, you will find information about how to enroll in the plans, changes in the plans offered, the required premiums, and extra information for Medicare eligible retirees.

As in past years, the OPM website has a feature that allows eligible participants to enter their zip code to identify health plans that have facilities close to where they live. Participants may also take advantage of a feature that allows them to select plans of interest and to have a comparison chart compiled displaying the plans' provisions, costs, and premiums. The OPM website, **www.opm.gov** (under "Insurance," then "Compare Plans") also lists the premiums for 2019.

Police/Fire and Teachers' Plan retirees who have coverage through District or federal programs may submit their materials to DCRB in a variety of ways. You may:

- email us at DCRB.benefits@dc.gov
- fax us at (202) 566-5001, or
- mail your completed change forms to the DCRB Member Services Center at 900 7th Street NW, Washington, DC 20001.

Please note: all submitted materials must be dated or postmarked no later than the close of business (5:00 p.m. ET) on December 10, 2018.

Active District employees should submit any changes online via the District's PeopleSoft Employee Self-Service portal, and should contact their Human Resources office with any questions.

Alert For Retirees—New Medicare Cards

In April of this year, the Centers for Medicare & Medicaid Services (CMS) began mailing new Medicare cards to all people with Medicare coverage. By substituting a Medicare Number that is unique to each person for the previously used Social Security Number, the new card is intended to protect identities and keep personal information more secure.

Medicare is automatically mailing the new cards, at no cost to the covered person, to the address on file with Social Security. So, making sure that your address is up-to-date is very important. You can update your address by calling the toll-free Social Security number at 1-800-772-1213 between 7 a.m. and 7 p.m. ET Monday through Friday or by signing into Social Security at **https//.www.ssa.gov** and creating a my Social Security account.

CMS has requested that we advise our members to do three important things when they receive their new Medicare cards:

1. Destroy your old Medicare card right away.
2. Use your new card. Doctors, other health care providers, and plans approved by Medicare know that Medicare is replacing the old cards. They are ready to accept your new card when you need care.
3. Beware of people contacting you about your new Medicare card and asking you for your Medicare Number or personal information, or to pay a fee for your new card. Treat your Medicare Number just like you treat your Social Security or credit card numbers.

Also, you should be aware that Medicare will never contact you uninvited to ask for personal information.

For more information about the new Medicare card, you can visit https//www.medicare.gov/newcard. You can also visit www.Medicare.gov for more tips to prevent Medicare fraud.

DC Retirement Board
900 7th Street, NW
Second Floor
Washington, DC 20001

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Inside this DCRB Report

District and Federal Health Care Open Season Enrollment, Year End Information, Trustee Elections, and more

From the Chairman of the Board

Continued from page 1

(Statements). In mid-September, Statements were distributed to members of the Teachers' Plan, and in late October, Statements were mailed to members of the Police/Fire Plan. These Statements provide our members with benchmarks of the amount of the benefit they have earned currently, and the amount they might expect to receive at their earliest retirement date. DCRB expects that this information will be useful to you and your family in planning for your retirement. As noted in previous newsletters, these Statements will be provided to our members annually.

In addition to the Statements, in late spring, members of each Plan were provided with a new Summary Plan Description (pension booklet), which are updated every five years. With this update, booklets were sent to active members electronically. And, beginning with this newsletter, active members will only receive newsletters electronically rather than paper versions. Finally, in early fall, DCRB upgraded its telephone system to add features and flexibility that will make your contacting us easier and more efficient.

Awards

Once again, we are happy to advise you that DCRB has received the Public Pension Coordinating Council's (PPCC) Recognition Award for Funding for 2018. This award is for meeting professional standards for plan funding as set forth in the Public Pension Standards. Also, for the first time, DCRB received PPCC's Recognition Award for Administration for 2018. PPCC is a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR). DCRB has received PPCC's funding award each of the past nine years.

In addition to the above awards, DCRB received the Government Finance Officers Association's Certificate of Achievement Award for Excellence in Financial Reporting for FY 2017. We have received this award for ten consecutive years.

These awards reflect DCRB's commitment to its members and its adherence to the required professional standards and maintenance of best practices expected of public retirement systems.

DC Retirement Board
900 7th Street, NW, 2nd Floor
Washington, DC 20001
Voice (202) 343-3200
Fax (202) 566-5000
www.dcrb.dc.gov

Sheila Morgan-Johnson
Executive Director

Joan M. Passerino
Editor

NO WRITTEN REPORT PROVIDED

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TO: BOARD OF TRUSTEES

FROM: EDWARD SMITH, CHAIRMAN

DATE: DECEMBER 20, 2018

SUBJECT: OPERATIONS COMMITTEE REPORT

The Operations Committee met on December 7, 2018. The following is a summary of the matters discussed and recommendations:

Actuarial Valuation Report

Ed Koebel and Jonathan Craven of Cavanaugh Macdonald provided the Committee with a summary presentation of the annual actuarial valuation report prepared as of October 1, 2018. Committee members had the opportunity to ask several questions and to request the inclusion of supplemental data for the final report. However, since the full valuation report was not available prior to the Committee meeting, no motion was made to recommend that the Board accept the full actuarial report.

Cavanaugh Macdonald is here today to present the actuarial results to the Board. The updated presentation and the full annual actuarial valuation report have been posted for trustee review.

After the Board presentation, I will propose a motion for the full Board's discussion and approval:

Motion: To accept and approve the Report on the Actuarial Valuations of the District of Columbia Teachers' Retirement Plan and the District of Columbia Police Officers and Firefighters' Retirement Plan, prepared as of October 1, 2018, for FY 2020.

FY 2020 Proposed Operating Budget

DCRB's Chief Financial Officer, Anthony Shelborne, presented the proposed FY 2020 Operating Budget of $42.8 million, including 75 FTEs. That presentation has been updated to include comments made by the Committee, and the CFO will now provide the Board with the updated presentation.

After the Board presentation, the Committee approved and makes the following recommendation to the full Board:

Motion: To approve the FY 2020 Operating Budget of $42.8 million and 75 total FTEs.

Comprehensive Insurance Program

DCRB utilizes AON Risk Services as an insurance broker to solicit quotes for insurance coverage from various carriers. For 2019, DCRB requested coverage for fiduciary liability and crime, property and casualty coverage, as well as cyber liability insurance. The same insurance coverage was procured last year.

The total cost for this coverage in 2017-2018 was $148,879. For the previous year, the cost was $150,864. For the 2019 premium year, the total cost is projected to be $137,905, for which the Committee makes the following recommendation:

Motion: To approve the recommended comprehensive insurance program for the 2019 premium year and authorize the Executive Director to expend no more than $140,000 for insurance premiums for the period January 1, 2019 to December 31, 2019.

The premium for trustees to obtain waiver of recourse insurance coverage will remain at $25 per year. As in the past, this amount will be invoiced and paid separately.

Insightful Pension Consulting Group, LLC Contract Extension

In July 2016, DCRB retained Insightful Pension Consulting Group, LLC to expand DCRB's risk management and compliance activities for the investment program. During the Committee meeting, the Executive Director discussed that this consultant serves a critical role with the continuation of deal support on an active pipeline of private markets investment opportunities.

At the Committee meeting, we approved a motion to authorize the Executive Director to extend the consulting contract for a six-month period. However, the Executive Director now requests that as the Chair of the Committee, I request the Committee's indulgence and recommend to the Board a contract extension for an additional ninety (90) business days in lieu of six-months. The period has been abbreviated to comply with the 90-day extension referenced in the existing consulting contract. Since funding for the original contract has been expended, the Board is being asked to authorize an increase of $104,500 ($102,000 for services + $2,500 for travel) to fund the contract extension period. The consultant will continue to furnish and deliver all items and perform all the services identified in the contract.

If there are no objections from the Operations Committee members, I will now make the following motion:

Motion: To authorize a $104,500 increase in funding to Contract # DCRB-18-C-0025 with Insightful Pension Consulting Group, LLC to allow for the completion of the contract requirements through April 26, 2019.

Executive Status Report

Attached for your information is a copy of an Executive Status Report that the Committee has developed to track the status of projects overseen by the Operations Committee. The Executive Director has stated that she will use similar reports to track and report the progress of various projects for all standing committees.

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DISTRICT OF COLUMBIA
DCRB
RETIREMENT BOARD

The District of Columbia Retirement Board 10/1/2018 Actuarial Valuation Results

Table of Contents

- Key Findings
- Funded Status
- Pension Results
  - Active and Retired Data
  - Liabilities & Assets
  - Gain/Loss Analysis
  - Contribution Results

Purposes of an Actuarial Valuation

- Assess the strategy of funding the promised benefits of the system
- Measure assets and liabilities (future benefit payments)
- Determine actuarial contribution amounts (2018 valuation results are used to set the FYE 2020 contribution amounts)
- Analyze experience (actual vs. expected) in last year
- Report on trends

Funding Policy

- Adopted in 2012 and revised in 2017 by the Board
- Objectives and Goals
  - 100% Funded Ratio
  - Stable or Decreasing Contribution Rates
- Assumptions
  - Entry Age Normal Cost Method
  - 5 year smoothing
  - Level dollar amortization
  - Closed 20 year amortization period beginning in 2012 valuation; now have 14 years remaining
  - All future gains and losses amortized over separate closed 20-year period

Key Findings

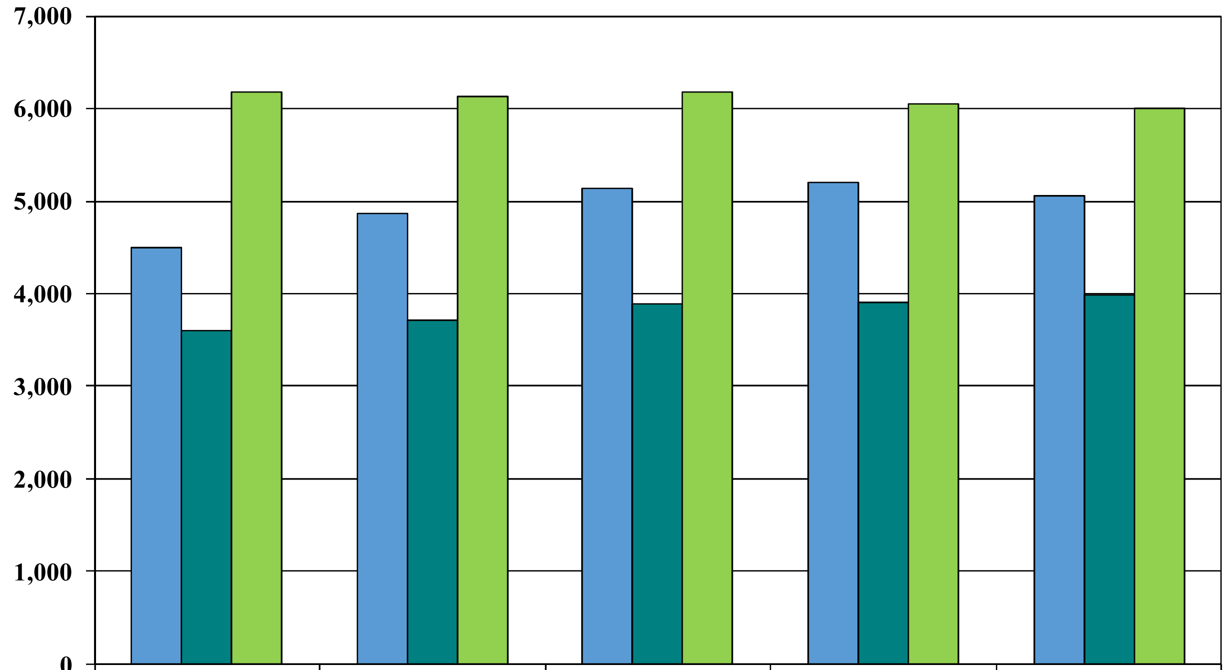
- An aggregate 6.47% investment return on a Market Value basis for fiscal year ending September 30, 2018.
- A 7.70% investment return on an Actuarial Value basis due to smoothing of asset returns over 5-year period.
- Funded status increased in aggregate from 105.2% to 106.2% on an Actuarial Value Basis.
- Total contribution is estimated at $151.9 million for 2020 fiscal year (up from $144.6 million for the 2019 fiscal year).

Funded Status as of October 1

Plan	Actuarial Value of Assets		Market Value of Assets	
	2018	2017	2018	2017
Teachers	93.0%	92.5%	95.3%	95.7%
Police	113.7	111.2	116.9	115.7
Fire	108.2	109.9	111.4	114.7
Police and Fire	112.0	110.8	115.2	115.4
Total	106.2	105.2	109.1	109.4

DCRB Pension Results

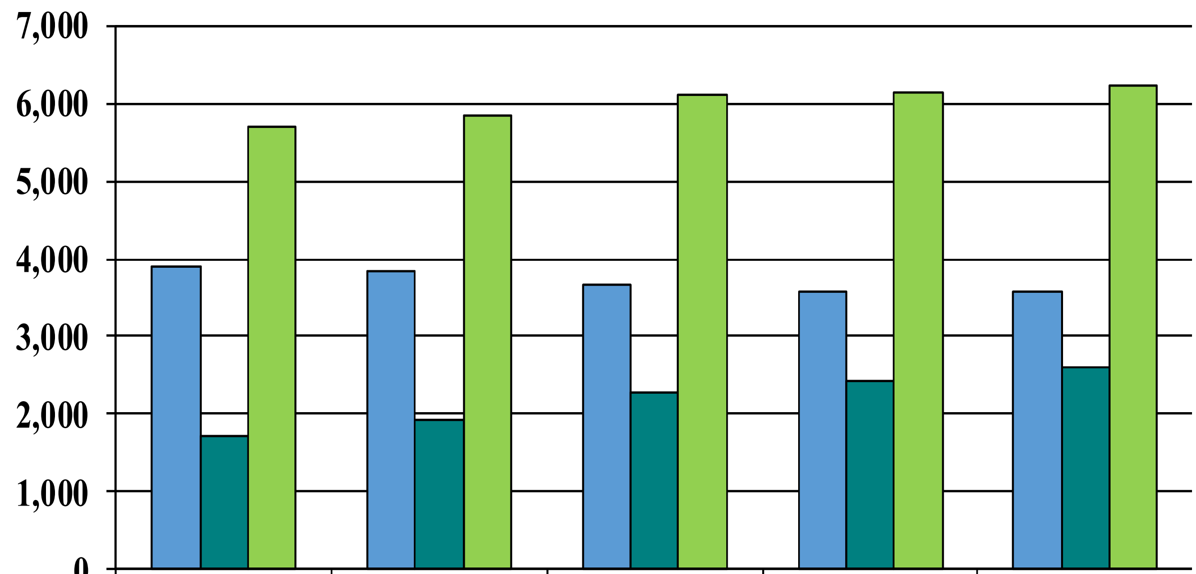
Total Active & Retired Teachers



	2014	2015	2016	2017	2018
Active Members	4,499	4,866	5,141	5,199	5,066
Retired District Members	3,601	3,718	3,882	3,899	3,990
Retired Total Members	6,189	6,137	6,183	6,061	6,006

3.0% average increase for active members since 2014; 2.6% decrease for 2018
2.6% average increase for retired district members since 2014; 2.3% increase for 2018
0.7% average decrease for retired total members since 2014; 0.9% decrease for 2018

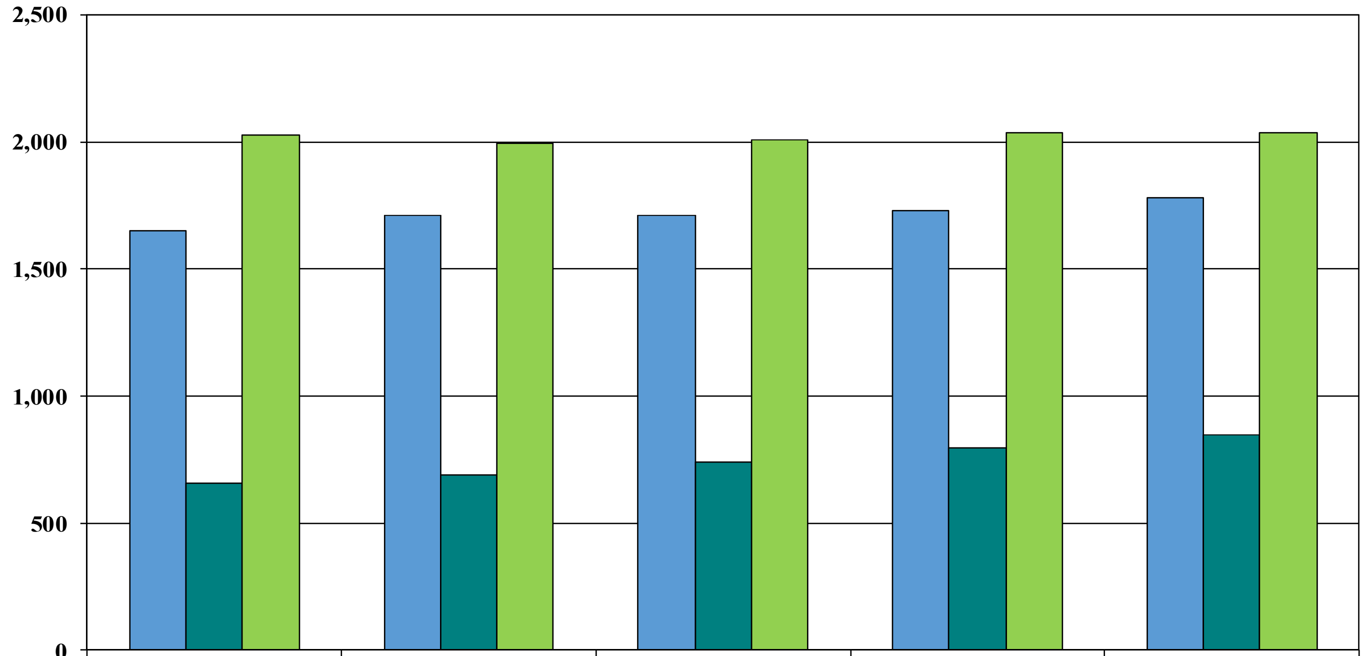
Total Active & Retired Police



	2014	2015	2016	2017	2018
Active Members	3,902	3,829	3,651	3,583	3,567
Retired District Members	1,707	1,923	2,265	2,419	2,593
Retired Total Members	5,717	5,861	6,110	6,157	6,229

2.2% average decrease for active members since 2014; 0.4% decrease for 2018
11.0% average increase for retired district members since 2014; 7.2% increase for 2018
2.2% average increase for retired total members since 2014; 1.2% increase for 2018

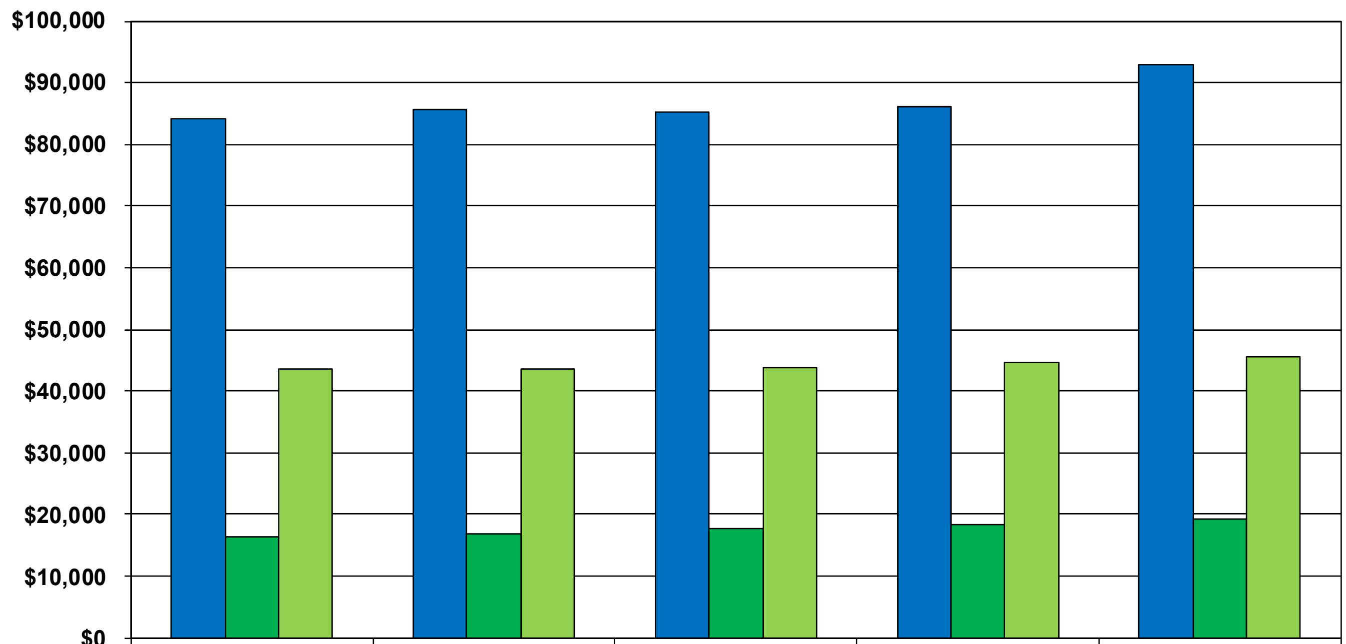
Total Active & Retired Fire



	2014	2015	2016	2017	2018
Active Members	1,649	1,708	1,708	1,729	1,782
Retired District Members	658	686	738	796	848
Retired Total Members	2,026	1,993	2,008	2,034	2,037

2.0% average increase for active members since 2014; 3.1% increase for 2018
6.5% average increase for retired district members since 2014; 6.5% increase for 2018
0.1% average increase for retired total members since 2014; 0.1% increase for 2018

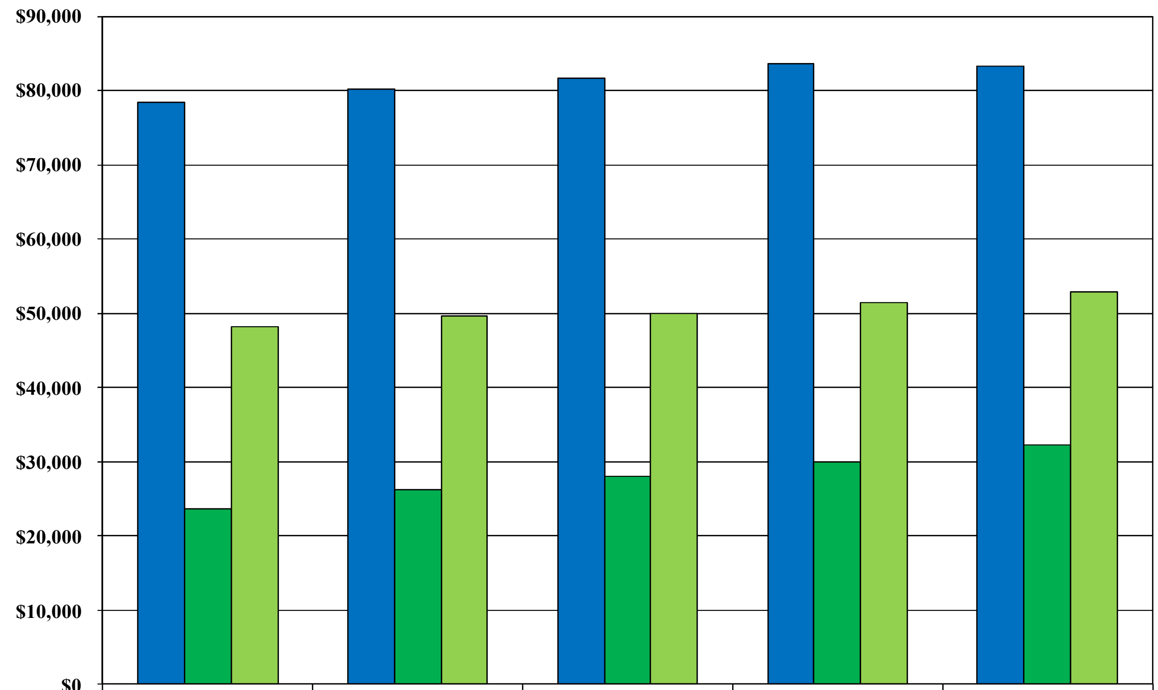
Average Teacher Salary & Benefits



	2014	2015	2016	2017	2018
Average Annual Salary	$84,225	$85,715	$85,213	$86,125	$92,923
Average Annual District Benefits	$16,297	$16,917	$17,720	$18,261	$19,182
Average Annual Total Benefits	$43,576	$43,601	$43,701	$44,680	$45,572

2.5% average increase in salary since 2014; 7.9% increase for 2018
4.2% average increase in district benefit since 2014; 5.0% increase for 2018
1.1% average increase in total benefit since 2014; 2.0% increase for 2018

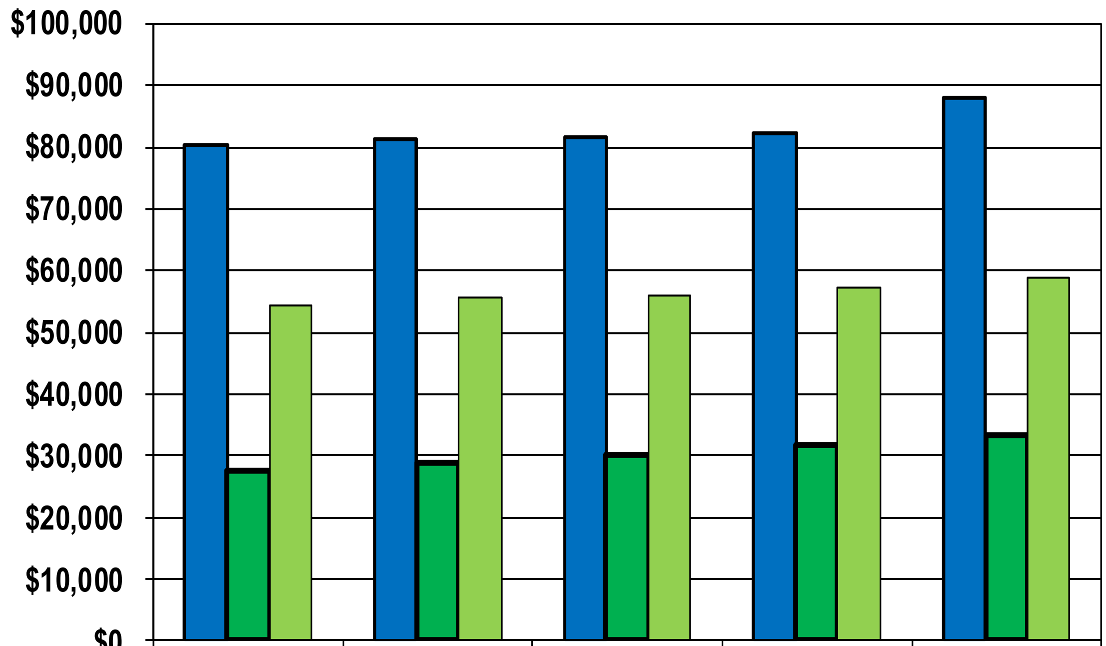
Average Police Salary & Benefits



	2014	2015	2016	2017	2018
Average Annual Salary	$78,361	$80,275	$81,743	$83,599	$83,342
Average Annual District Benefits	$23,592	$26,243	$28,074	$29,956	$32,193
Average Annual Total Benefits	$48,245	$49,635	$49,962	$51,392	$52,890

1.6% average increase in salary since 2014; 0.3% decrease for 2018
8.1% average increase in district benefit since 2014; 7.5% increase for 2018
2.3% average increase in total benefit since 2014; 2.9% increase for 2018

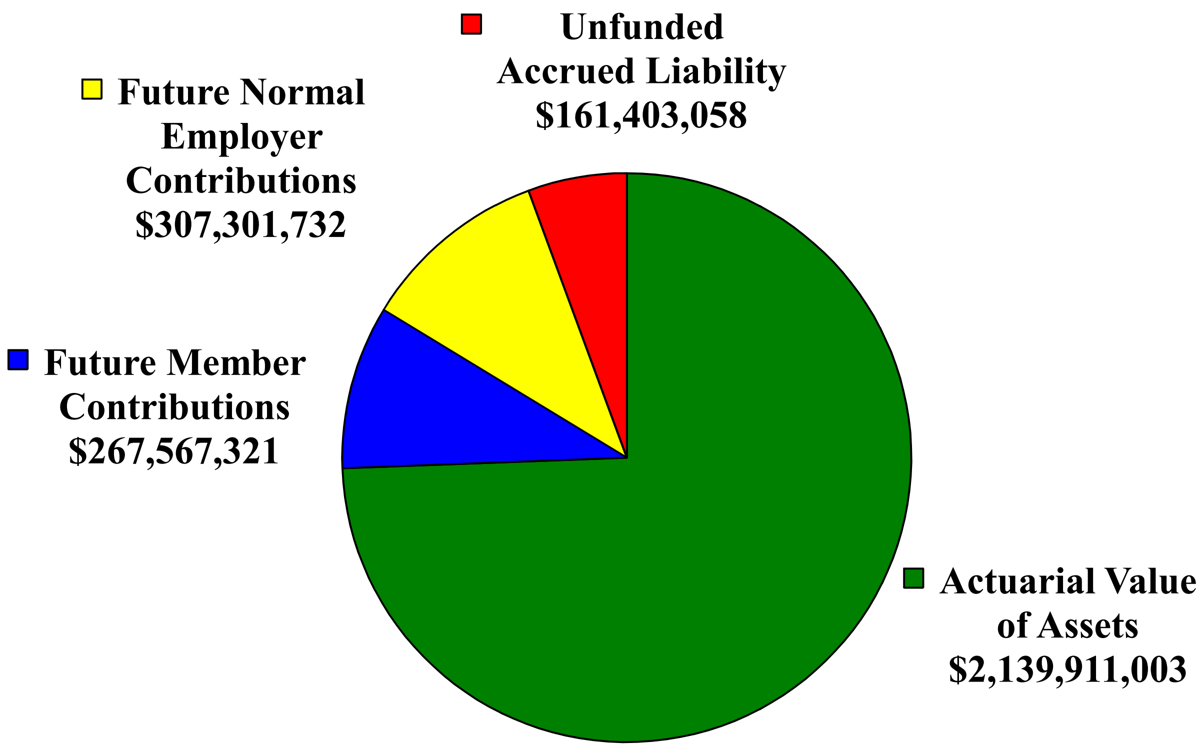
Average Fire Salary & Benefits



	2014	2015	2016	2017	2018
Average Annual Salary	$80,443	$81,281	$81,775	$82,342	$88,062
Average Annual District Benefits	$27,628	$28,865	$30,015	$31,687	$33,430
Average Annual Total Benefits	$54,294	$55,506	$55,894	$57,355	$58,828

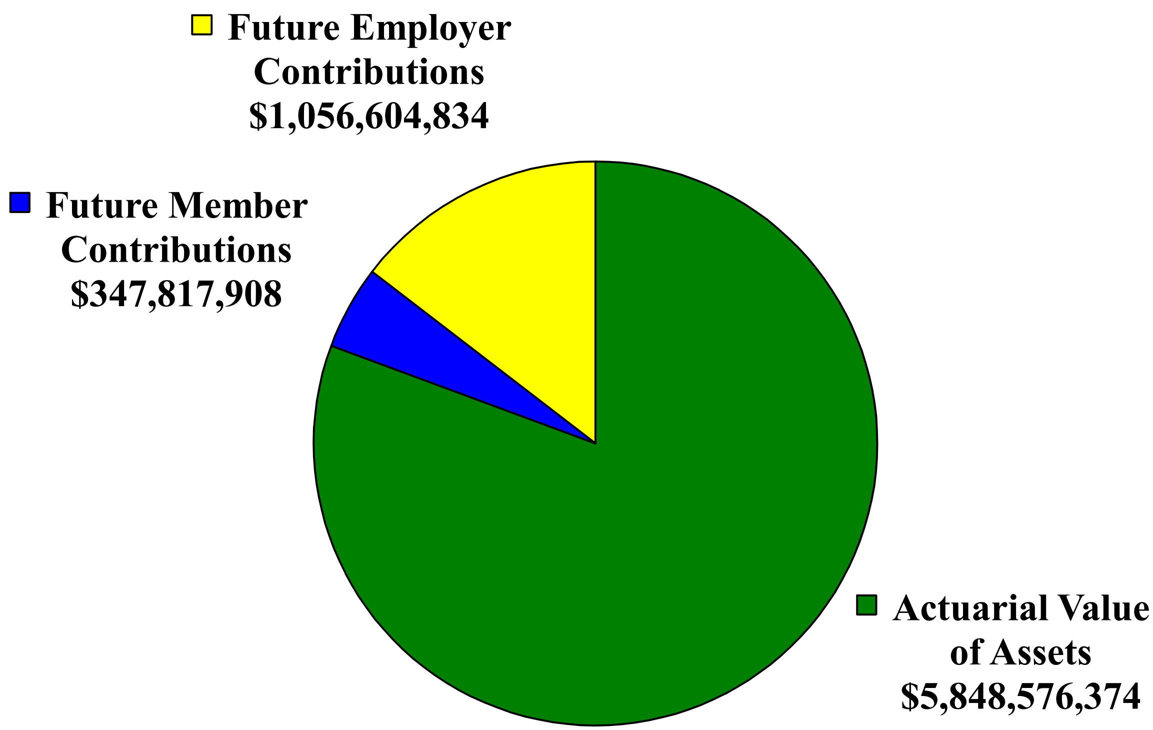
2.3% average increase in salary since 2014; 6.9% increase for 2018
4.9% average increase in district benefit since 2014; 5.5% increase for 2018
2.0% average increase in total benefit since 2014; 2.6% increase for 2018

Present Value of Future Benefits by Funding Type - Teachers



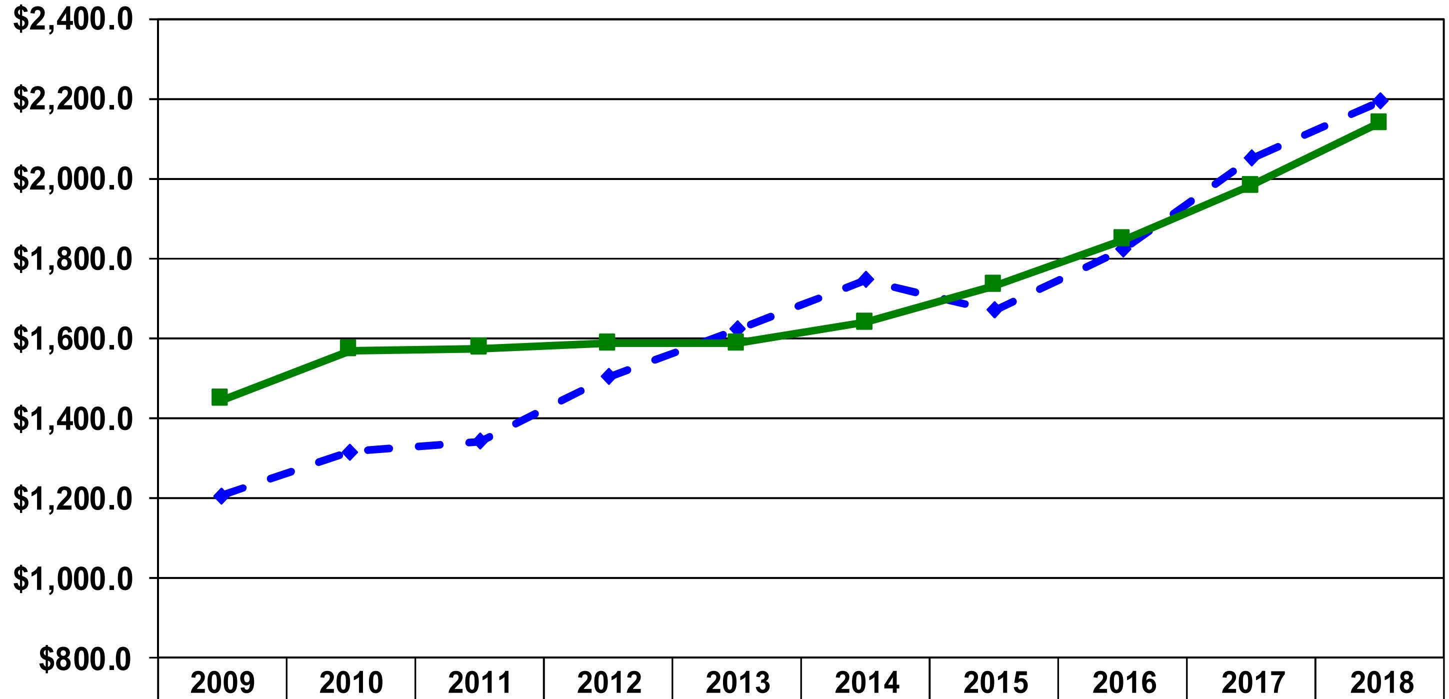
Total - $2,876,183,114

Present Value of Future Benefits by Funding Type – Police & Fire



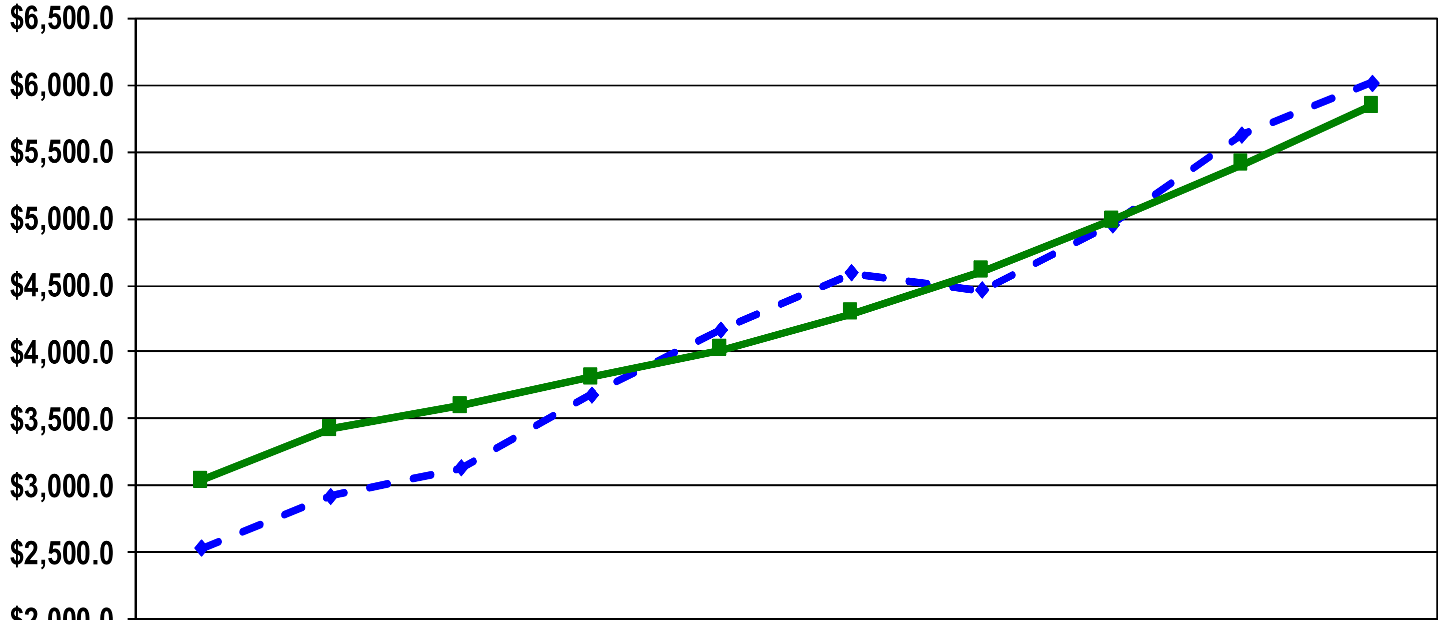
Total - $7,252,999,116

Teacher Assets
($ Millions)



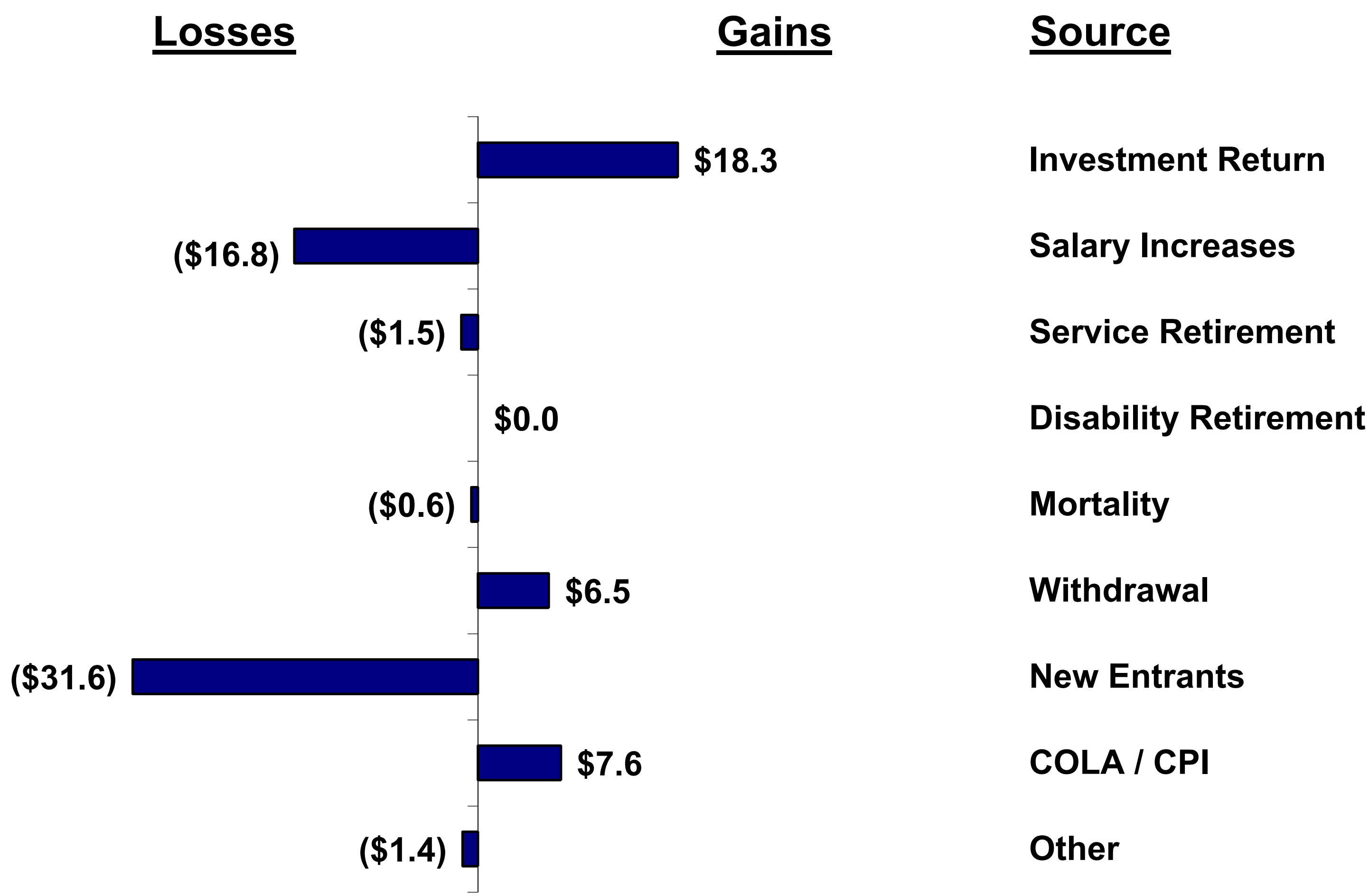
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market Value	$1,204.4	$1,314.4	$1,340.7	$1,503.3	$1,622.4	$1,746.0	$1,671.0	$1,822.1	$2,051.0	$2,193.6
Actuarial Value	$1,445.0	$1,571.0	$1,573.7	$1,585.6	$1,585.8	$1,638.6	$1,732.0	$1,845.5	$1,982.0	$2,139.9

Police & Fire Assets
($ Millions)

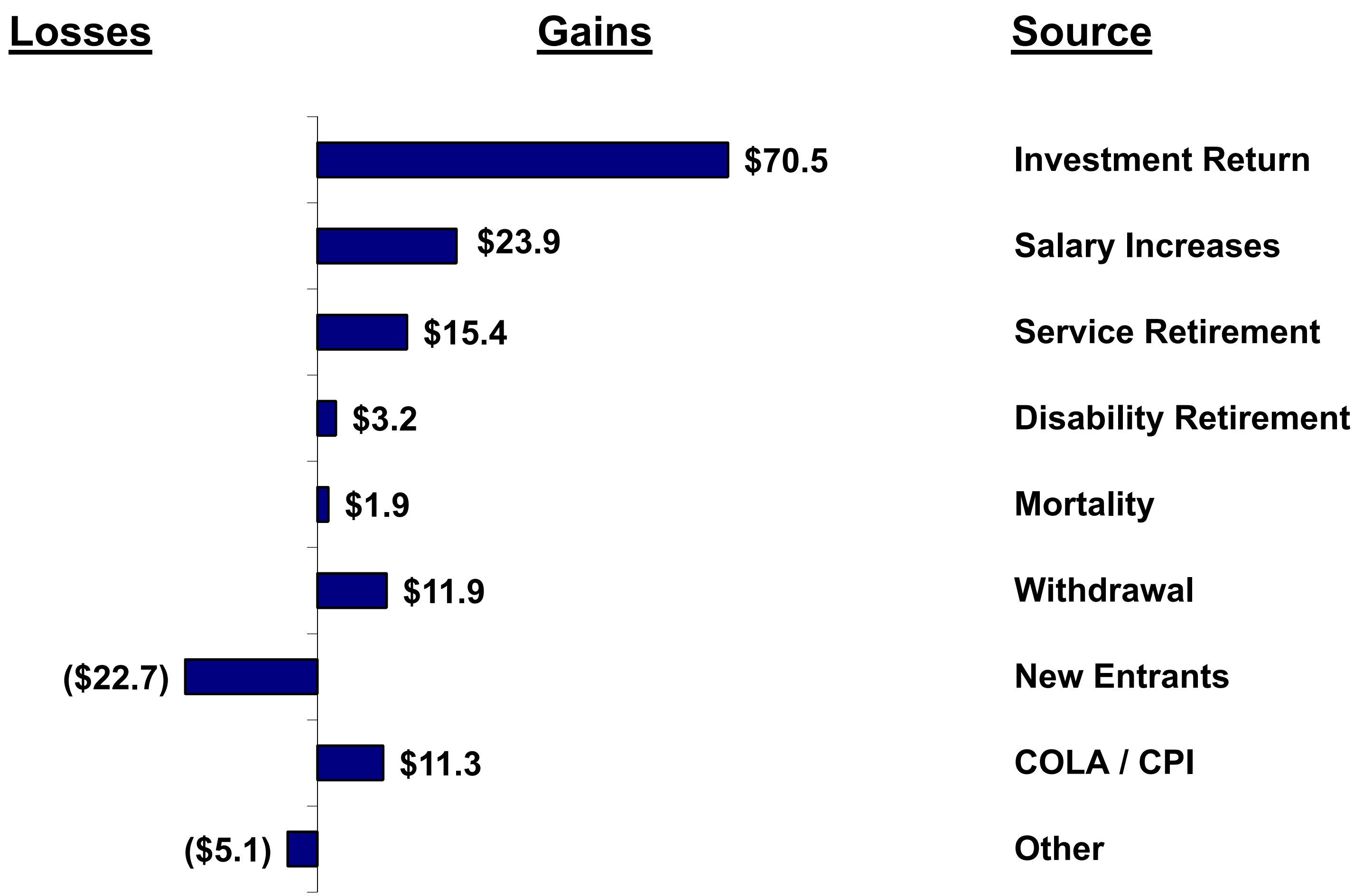


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Market Value	$2,525.0	$2,920.8	$3,127.5	$3,681.5	$4,168.5	$4,588.3	$4,462.2	$4,954.5	$5,629.9	$6,015.9
Actuarial Value	$3,032.1	$3,418.8	$3,593.7	$3,804.9	$4,013.5	$4,288.7	$4,607.3	$4,985.1	$5,406.4	$5,848.6

Teachers Actuarial Gain/Loss Analysis
($ millions)



Police & Fire Actuarial Gain/Loss Analysis
($ millions)



Contribution Results for FY 2020

	Teachers	Police	Fire	Total
Employer Normal Cost Rate	7.97%	33.03%	35.89%	20.76%
Total Accrued Liability	$2,301.3	$3,593.0	$1,630.8	$7,525.1
Actuarial Value of Assets	$2,139.9	$4,083.7	$1,764.9	$7,988.5
Unfunded Accrued Liability	$161.4	$(490.7)	$(134.1)	$(463.4)
Amortization of UAL (Level $)	$17.4	$(51.9)	$(14.3)	$(48.8)
UAL Rate	3.70%	(17.45)%	(9.14)%	(5.28)%
Total Employer Contribution Rate (Employer Normal Cost Rate plus UAL Rate)	11.67%	15.58%	26.75%	15.48%
Estimated 2020 Fiscal Year Payroll	$490.8	$309.9	$163.6	$964.3
Employer Contributions in Dollars	$57.3	$48.3	$43.7	$149.3
Shortfall/Overpayment	$1.6	$(2.9)	$3.9	$2.6
Final Employer Contributions in Dollars	$58.9	$45.4	$47.6	$151.9
Funded Ratio based on AVA	92.99%	113.66%	108.22%	106.20%
Funded Ratio based on MVA	95.32%	116.89%	111.37%	109.10%

Reconciliation of Contribution Requirement

Source	Increase/(Decrease) in Contribution	Cumulative Employer Contribution
October 1, 2017 Valuation (2019 FYE)		$144.6
Anticipated Normal Cost Increase due to Inflation	8.2	152.8
Section 1-907.02(c) Contribution Adjustment from 2017 Valuation*	4.3	157.1
Actuarial Value of Assets Investment Gain	(8.5)	148.6
Net Demographic Experience	2.5	151.1
Net COLA Experience	(1.8)	149.3
Assumption Changes	0.0	0.0
Method Changes	0.0	0.0
Section 1-907.02(c) Contribution Adjustment from 2018 Valuation*	2.6	151.9
October 1, 2018 Valuation (2020 FYE)		$151.9

*Section 1-907.02(c) requires that City contributions based on expected pay amounts be trued up after the actual pay amounts are known.

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DISTRICT OF COLUMBIA • DCRB • RETIREMENT BOARD

Report on the Actuarial Valuations of the

Teachers' Retirement Plan and Police Officers & Firefighters' Retirement Plan

Prepared as of October 1, 2018 for the District of Columbia Retirement Board

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December 17, 2018

The Board of Trustees
District of Columbia Retirement Board
900 7th Street, NW, 2nd Floor
Washington, DC 20001

Dear Trustees:

We are pleased to submit the results of the annual valuations to the District of Columbia Retirement Board for the District of Columbia Teachers' Retirement Plan (the Teachers' Retirement Plan), and the District of Columbia Police Officers and Firefighters' Retirement Plan (the Police Officers and Firefighters' Retirement Plan), prepared as of October 1, 2018.

The purpose of this report is to provide a summary of the funded status of each Plan as of October 1, 2018, and to recommend rates of contribution to be paid by the District in the 2020 fiscal year. The information needed for this Plan under Governmental Accounting Standards Board (GASB) Statement No. 67 is provided in a separate report. However, for informational purposes only, we have also provided accounting information under GASB 25 and 27 in Section VIII of the report. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

The promised benefits are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. A five-year smoothed market value of assets is used for actuarial valuation purposes. The assumptions recommended by the actuary and adopted by the Board are reasonably related to the experience under the District of Columbia Teachers' Retirement Fund and the District of Columbia Police Officers and Fire Fighters' Retirement Fund (collectively referred to as the Fund) and to reasonable expectations of anticipated experience under the Fund.

There have been no changes in the actuarial assumptions and methods or the benefit provisions since the previous valuation. However, retroactive payroll increases were provided to active members in the Teachers' Retirement Plan and the Firefighters' Retirement Plan.

The funding policy adopted by the Board in 2012 includes the following funding goals:

- To maintain an increasing or stable ratio of Plan assets to actuarial accrued liabilities and reach a 100 percent minimum funded ratio;

- To develop a pattern of stable or declining contribution rates when expressed as a percentage of member payroll as measured by valuations prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board, with a minimum employer contribution equal to the lesser of the normal cost determined under the Entry Age Normal cost method or the current active member contribution rate.

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December 17, 2018
The Board of Trustees
Page 2

The funding policy was amended by the Board in 2017 to:

- Amortize the legacy Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2017 over a closed 15-year period on a level dollar basis.
- In subsequent valuations, all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation will be amortized over a closed 20-year period from the date it is established.
- Change the asset smoothing period from seven years to five years.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Plans and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plans.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Plans. Use of these computations from purposes other than meeting these requirements may not be appropriate.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

Edward J. Koebel

Jonathan T. Craven

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

Jonathan T. Craven, ASA, EA, FCA, MAAA
Consulting Actuary

EJK/JTC:bvb

Table of Contents

Section I – Summary of Principal Results

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results for the Teachers' Retirement Plan and Police Officers and Firefighters' Retirement Plan are summarized below in the tables that follow.

SUMMARY OF PRINCIPAL RESULTS FOR TEACHERS' RETIREMENT PLAN
($ IN THOUSANDS)

VALUATION DATE	October 1, 2018	October 1, 2017
Number of Active Members	5,066	5,199
Annual Covered Payroll	$470,749	$447,762
Number of Retired Members and Survivors	3,990	3,899
Annual Retirement Benefits	$76,535	$71,201
Assets:		
Actuarial Value	$2,139,911	$1,982,019
Market Value	$2,193,598	$2,051,006
Liabilities:		
Actuarial Accrued Liability	$2,301,314	$2,142,491
Unfunded Actuarial Accrued Liability (UAAL)	$161,403	$160,472
Funding Ratios:		
Based on Actuarial Value	92.99%	92.51%
Based on Market Value	95.32%	95.73%
CONTRIBUTION FOR FISCAL YEAR ENDING	**09/30/2020**	**09/30/2019**
Employer Normal Cost Rate*	7.97%	7.55%
Amortization of UAAL Rate	3.70	3.54
Actuarially Determined Contribution Rate (ADC)	11.67%	11.09%
Estimated Fiscal Year End Covered Payroll	$490,756	$466,792
Fiscal Year District Payment before 1-907.02(c)	$57,271	$51,767
Shortfall/(Overpayment)	1,617	1,576
Fiscal Year District Payment	$58,888	$53,343

*The normal cost rate includes the administrative expense rate of 1.20%.

Section I – Summary of Principal Results

SUMMARY OF PRINCIPAL RESULTS FOR POLICE OFFICERS' RETIREMENT PLAN ($ IN THOUSANDS)

VALUATION DATE	October 1, 2018	October 1, 2017
Total Number of Active Members	3,567	3,583
Total Annual Covered Payroll	$297,283	$299,535
Number of Retired Members and Survivors	2,593	2,419
Annual Retirement Benefits	$83,476	$72,463
Total Assets:		
Actuarial Value	$4,083,671	$3,794,954
Market Value	$4,199,797	$3,949,045
Liabilities:		
Actuarial Accrued Liability	$3,592,965	$3,412,554
Unfunded Actuarial Accrued Liability (UAAL)	($490,706)	($382,400)
Funding Ratios:		
Based on Actuarial Value	113.66%	111.21%
Based on Market Value	116.89%	115.72%
CONTRIBUTION FOR FISCAL YEAR ENDING	**09/30/2020**	**09/30/2019**
Employer Normal Cost Rate*	33.03%	32.15%
Amortization of UAAL Rate	(17.45)	(13.10)
Actuarially Determined Contribution Rate (ADC)	15.58%	19.05%
Estimated Fiscal Year End Covered Payroll	$309,918	$312,265
Fiscal Year District Payment before 1-907.02(c)	$48,285	$59,486
Shortfall/(Overpayment)	(2,864)	(4,964)
Fiscal Year District Payment	$45,421	$54,522

* The normal cost rate includes the administrative expense rate of 2.10%.

Section I – Summary of Principal Results

SUMMARY OF PRINCIPAL RESULTS FOR FIREFIGHTERS' RETIREMENT PLAN
($ IN THOUSANDS)

VALUATION DATE	October 1, 2018	October 1, 2017
Total Number of Active Members	1,782	1,729
Total Annual Covered Payroll	$156,926	$142,370
Number of Retired Members and Survivors	848	796
Annual Retirement Benefits	$28,348	$25,223
Total Assets:		
Actuarial Value	$1,764,905	$1,611,413
Market Value	$1,816,156	$1,680,866
Liabilities:		
Actuarial Accrued Liability	$1,630,796	$1,465,707
Unfunded Actuarial Accrued Liability (UAAL)	($134,109)	($145,706)
Funding Ratios:		
Based on Actuarial Value	108.22%	109.94%
Based on Market Value	111.37%	114.68%
CONTRIBUTION FOR FISCAL YEAR ENDING	**09/30/2020**	**09/30/2019**
Employer Normal Cost Rate*	35.29%	35.46%
Amortization of UAAL Rate	(8.54)	(10.07)
Actuarially Determined Contribution Rate (ADC)	26.75%	25.39%
Estimated Fiscal Year End Covered Payroll	$163,595	$148,421
Fiscal Year District Payment before 1-907.02(c)	$43,762	$37,684
Shortfall/(Overpayment)	3,878	(922)
Fiscal Year District Payment	$47,640	$36,762

* The normal cost rate includes the administrative expense rate of 2.10%.

Section I – Summary of Principal Results

SUMMARY OF PRINCIPAL RESULTS FOR POLICE OFFICERS & FIREFIGHTERS' RETIREMENT PLAN
($ IN THOUSANDS)

VALUATION DATE	October 1, 2018	October 1, 2017
Number of Active Police Officers	3,567	3,583
Annual Covered Payroll	$297,283	$299,535
Number of Active Firefighters	1,782	1,729
Annual Covered Payroll	$156,926	$142,370
Total Number of Active Members	5,349	5,312
Total Annual Covered Payroll	$454,209	$441,905
Number of Retired Members and Survivors	3,441	3,215
Annual Retirement Benefits	$111,824	$97,686
Assets:		
Actuarial Value	$5,848,576	$5,406,366
Market Value	$6,015,953	$5,629,911
Liabilities:		
Actuarial Accrued Liability	$5,223,761	$4,878,260
Unfunded Actuarial Accrued Liability (UAAL)	($624,815)	($528,106)
Funding Ratios:		
Based on Actuarial Value	111.96%	110.84%
Based on Market Value	115.17%	115.41%
CONTRIBUTIONS FOR FISCAL YEAR ENDING	**09/30/2020**	**09/30/2019**
Employer Normal Cost Rate*	33.81%	33.21%
Amortization of UAAL Rate	(14.37)	(12.12)
Actuarially Determined Contribution Rate (ADC)	19.44%	21.09%
Estimated Fiscal Year End Covered Payroll	$473,513	$460,686
Fiscal Year District Payment before 1-907.02(c)	$92,047	$97,170
Shortfall/(Overpayment)	1,014	(5,886)
Fiscal Year District Payment	$93,061	$91,284

* The normal cost rate includes the administrative expense rate of 2.10%.

Section I – Summary of Principal Results

2. The valuation balance sheet showing the results is given in Schedule A.

3. Comments on the valuation results as of October 1, 2018 are given in Section IV and further adjustments of the contribution amounts are set out in Section V.

4. Schedule B of this report shows the development of the actuarial value of assets. Schedule D outlines the full set of actuarial assumptions and methods employed. No changes were made to the actuarial assumptions and methods since the previous valuation.

5. The funding policy adopted by the Board in 2012 was amended in 2017 to:
   - Amortize the legacy Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2017 over a closed 15-year period on a level dollar basis.
   - The assumption and method changes and experience gains for the October 1, 2017 valuation will be amortized over a closed 20-year period from the valuation date.
   - In subsequent valuations, all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation will be amortized over a closed 20-year period from the date it is established.
   - Change the asset smoothing period from seven years to five years.

6. The valuation takes into account the effect of any amendments to the Plan through the valuation date. The Main Provisions of the Plans, as summarized in Schedule E, were taken into account in the current valuation. No changes were made to the main provisions since the previous valuation.

7. Membership and asset data was provided by the Plan's staff and was reviewed for reasonableness and consistency with data from prior valuations. Where data was incomplete but thought to be credible, assumptions were made for missing items. The valuation results depend on the integrity of the data. If any of this information is inaccurate, our results may differ and our calculations may need to be revised. All membership data was collected as of July 1, 2018, but for valuation purposes, (e.g., age, service) all members were treated as if remaining in the System as of October 1, 2018.

Section II – Membership Data

1. Data regarding the membership of the Plans for use as a basis of the valuation were furnished by DCRB, the District Government and the U.S. Department of the Treasury. The following table shows the number of active members and their annual compensation as of October 1, 2018, on the basis of which the valuation was prepared.

TABLE 1

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF OCTOBER 1, 2018 ($ IN THOUSANDS)

GROUP	NUMBER	COMPENSATION
Teachers	5,066	$470,749
Police Officers	3,567	297,283
Firefighters	1,782	156,926
Total	10,415	$924,958

2. The following table shows a five-year history of active member valuation data.

TABLE 2

SCHEDULE OF TOTAL ACTIVE MEMBER VALUATION DATA

VALUATION DATE	NUMBER	ANNUAL PAYROLL ($ IN THOUSANDS)	ANNUAL AVERAGE PAY	% CHANGE IN AVERAGE PAY
10/01/2018	10,415	$ 924,958	$ 88,810	4.93 %
10/01/2017	10,511	889,667	84,642	1.43
10/01/2016	10,500	876,193	83,447	0.56
10/01/2015	10,403	863,291	82,985	2.04
10/01/2014	10,050	817,341	81,327	2.79

Section II – Membership Data

3. The following tables show the number and annual retirement benefits payable to retired members and survivors on the roll of DCRB as of the valuation date.

TABLE 3

THE NUMBER AND ANNUAL RETIREMENT BENEFITS OF RETIRED MEMBERS AND SURVIVORS OF DECEASED MEMBERS* ON THE ROLL AS OF OCTOBER 1, 2018 ($ IN THOUSANDS)

DISTRICT ONLY

TYPE OF RETIREMENT	GROUP			
	TEACHERS	POLICE OFFICERS	FIREFIGHTERS	TOTAL
Service:				
Number	3,709	1,894	623	6,226
Annual Benefits	$72,709	$68,224	$23,216	$164,149
Disability:				
Number	106	311	91	508
Annual Benefits	$2,530	$9,137	$2,554	$14,221
Survivors:				
Number	175	388	134	697
Annual Benefits	$1,296	$6,115	$2,578	$9,989
Total:				
Number	3,990	2,593	848	7,431
Annual Benefits	$76,535	$83,476	$28,348	$188,359

*In addition, there are 1,744 deferred vested participants with annual deferred benefits of $26,780,433.

Section II – Membership Data

TABLE 4

**THE NUMBER AND ANNUAL RETIREMENT BENEFITS
OF RETIRED MEMBERS AND SURVIVORS OF DECEASED MEMBERS
ON THE ROLL AS OF OCTOBER 1, 2018
($ IN THOUSANDS)**

FEDERAL PLUS DISTRICT

TYPE OF RETIREMENT	GROUP			
	TEACHERS	POLICE OFFICERS	FIREFIGHTERS	TOTAL
Service:				
Number	5,284	3,828	1,162	10,274
Annual Benefits	$255,266	$243,204	$85,554	$584,024
Disability:				
Number	275	925	346	1,546
Annual Benefits	$9,045	$41,379	$17,682	$68,106
Survivors:				
Number	447	1,476	529	2,452
Annual Benefits	$9,395	$44,868	$16,597	$70,860
Total:				
Number	6,006	6,229	2,037	14,272
Annual Benefits	$273,706	$329,451	$119,833	$722,990

4. Tables 4 through 6 of Schedule F show the distribution by age and service of the number and annual compensation of active members for each plan included in the valuation. Tables 7 through 12 of Schedule F show the distribution by age of the number and annual benefits of retired members for each plan included in the valuation.

Section III – Assets

1. Schedule C shows the additions and deductions of DCRB for the year preceding the valuation date and a reconciliation of the fund balances at market value. As of October 1, 2018, the market value of assets used to determine the actuarial value of assets for each plan is shown below:

TABLE 5

COMPARISON OF MARKET VALUE OF ASSETS AT OCTOBER 1, 2018 AND OCTOBER 1, 2017 ($ IN THOUSANDS)

FUND	OCTOBER 1, 2018 MARKET VALUE	OCTOBER 1, 2017 MARKET VALUE
Teachers	$2,193,598	$2,051,006
Police Officers and Firefighters	6,015,953	5,629,911
Total Market Value of Assets	$8,209,551	$7,680,917

2. The five-year market related actuarial value of assets used for the current valuation was $7,988,487,377. Schedule B shows the development of the actuarial value of assets as of October 1, 2018. The following table shows the actuarial value of assets allocated between each plan.

TABLE 6

COMPARISON OF ACTUARIAL VALUE OF ASSETS AT OCTOBER 1, 2018 AND OCTOBER 1, 2017 ($ IN THOUSANDS)

FUND	OCTOBER 1, 2018 ACTUARIAL VALUE	OCTOBER 1, 2017 ACTUARIAL VALUE
Teachers	$2,139,911	$1,982,019
Police Officers and Firefighters	5,848,576	5,406,366
Total Actuarial Value of Assets	$7,988,487	$7,388,385

Section IV – Comments on Valuation

Teachers' Retirement Plan

1. The total valuation balance sheet on account of benefits shows that the Teachers' Retirement Plan has total prospective benefit liabilities of $2,876,183,114, of which $1,054,091,064 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $180,705,046 is for the prospective benefits payable on account of present inactive members, and $1,641,387,004 is for the prospective benefits payable on account of present active members. Against these benefit liabilities the Teachers' Retirement Plan has a total present actuarial value of assets of $2,139,911,003 as of October 1, 2018. The difference of $736,272,111 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits.

2. The contributions to the Plan consist of normal cost contributions and actuarial accrued liability contributions. The valuation indicates the normal contributions at a rate of 14.67% of payroll are required under the entry age method. Of this amount 7.90% will be paid by the members (at the rate of 7.0% of salary for members hired before November 1, 1996 and 8.0% of salary for members hired on or after November 1, 1996), in 2020 and the remaining 6.77% is payable by the District.

3. Estimated budgeted administrative expenses are included in the normal rates. The expenses for the fiscal year ending September 30, 2020 are estimated to be 1.20% of payroll.

4. Prospective normal cost contributions (excluding administrative expenses) at the rate of 14.67% have a present value of $574,869,053. When this amount is subtracted from $736,272,111, which is the present value of total future contributions to be made, there remains $161,403,058 as the amount of unfunded actuarial accrued liability contributions. The development of the unfunded actuarial accrued liability is shown in Schedule A.

5. The unfunded actuarial accrued liability (UAAL) increased approximately $0.9 million for the plan year ending September 30, 2018 and the funding ratio increased slightly from 92.51% to 92.99%. The slight increase in the UAAL was primarily due to higher salary increases for active members than expected offset by lower actual Cost-of-Living Adjustment (COLA) for retired members than expected and investment earnings on an actuarial value basis that was higher than the expected rate of 6.50%. See Schedule H for a complete breakdown of the experience of the Plan.

Section IV – Comments on Valuation

Police Officers and Firefighters' Retirement Plan

1. The total valuation balance sheet on account of benefits shows that the combined Police Officers and Firefighters' Retirement Plan has total prospective benefit liabilities of $7,252,999,116, of which $2,170,286,507 is for the prospective benefits payable on account of present retired members and survivors of deceased members, $88,408,692 is for the prospective benefits payable on account of present inactive members, and $4,994,303,917 is for the prospective benefits payable on account of present active members. Against these benefit liabilities the Police Officers and Firefighters' Retirement Plan has a total present actuarial value of assets of $5,848,576,374 as of October 1, 2018. The difference of $1,404,422,742 between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future on account of benefits.

2. The contributions to the Plan consist of normal cost contributions and actuarial accrued liability contributions. The valuation indicates the normal contributions at a rate of 39.45% of payroll are required under the entry age method. Of this amount 7.74% will be paid by the members (at the rate of 7.0% of salary for members hired before November 10, 1996 and 8.0% of salary for members hired on or after November 10, 1996), in 2020 and the remaining 31.71% is payable by the District.

3. Estimated budgeted administrative expenses are included in the normal rates. The expenses for the fiscal year ending September 30, 2020 are estimated to be 2.10% of payroll.

4. Prospective normal cost contributions (excluding administrative expenses) at the rate of 39.45% have a present value of $2,029,238,400. When this amount is subtracted from $1,404,422,742, which is the present value of total future contributions to be made, there remains a surplus of ($624,815,658) as the amount of unfunded actuarial accrued liability contributions. The development of the unfunded actuarial accrued liability is shown in Schedule A.

5. The unfunded actuarial accrued liability (UAAL) decreased approximately $96.7 million for the plan year ending September 30, 2018 and the funding ratio increased slightly from 110.83% to 111.96%. The decrease in the UAAL was primarily due to lower salary increases for active Police members than was expected, lower actual Cost-of-Living Adjustment (COLA) for retired members than expected, and investment earnings on an actuarial value basis that was higher than the expected rate of 6.50%. These gains were partially offset by the higher salary increase for active Firefighter members. See Schedule H for a complete breakdown of the experience of the Plan.

Section V – §1-907.02(c) Adjustments to 2020 Payment

1. Beginning in fiscal year 2001, the District payment was adjusted pursuant to D.C. Code §1-907.02(c). This section stipulates that "…the enrolled actuary shall determine whether the amount appropriated for the applicable fiscal year resulted in an overpayment or a shortfall based upon the actual covered payroll."

2. The D.C. Code §1-907.02(c) adjustment to the fiscal year 2020 District payment is calculated by taking the actual fiscal year 2018 covered payroll for each employee class (which is provided by the District) and multiplying by the corresponding fiscal year 2018 contribution rates, which were determined as of October 1, 2016. This result is the fiscal year 2018 contribution that was required to be made by the District, based on actual payroll. The required contribution is then compared to the actual contribution that was paid by the District based on projected payroll. The difference between the required and actual contributions is the D.C. Code §1-907.02(c) adjustment. Any adjustment amount that cannot be used in a given year is carried forward to the next fiscal year.

ADJUSTMENT TO DISTRICT PAYMENT
AS OF OCTOBER 1, 2018
($ IN THOUSANDS)

	Teachers	Police	Fire
(1) Actual FY 2018 Covered Payroll	$470,749	$297,283	$156,926
(2) FY 2018 Contribution Rate	11.51%	20.69%	34.26%
(3) Actual FY 2018 Contribution Required	$54,183	$61,508	$53,763
(4) Actual FY 2018 Contribution Paid without Adjustment	$52,566	$64,372	$49,885
(5) Preliminary D.C. Code §1-907.02(c) Adjustment to FY 2019 Payment [(3) - (4)]	$1,617	($2,864)	$3,878
(6) FY 2018 Unrecognized Amount	$0	$0	$0
(7) Final D.C. Code §1-907.02(c) Adjustment to FY 2019 Payment [(5) + (6) if applicable]	$1,617	($2,864)	$3,878
(8) Applicable Adjustment	$1,617	($2,864)	$3,878
(9) Carryover Adjustment [(7) - (8)]	$0	$0	$0

Section VI – Contributions Payable

The following tables summarize the employer contribution rates, which were determined by the October 1, 2018 valuation and recommended for use for the fiscal year ending September 30, 2020.

TEACHERS' RETIREMENT PLAN
ACTUARIAL DETERMINED CONTRIBUTIONS (ADC)
FOR FISCAL YEAR ENDING SEPTEMBER 30, 2020

	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ACTUARIAL DETERMINED CONTRIBUTION (ADC)
Normal Cost	6.77%	$33,224,000
Expense Load	1.20	5,889,000
Accrued Liability	3.70	18,158,000
Sub-Total	11.67%	$57,271,000
DC Code Adjustment		1,617,000
Total		$58,888,000

POLICE OFFICERS AND FIREFIGHTERS' RETIREMENT PLAN
ACTUARIAL DETERMINED CONTRIBUTIONS (ADC)
FOR FISCAL YEAR ENDING SEPTEMBER 30, 2020

	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION	EMPLOYER ACTUARIAL DETERMINED CONTRIBUTION (ADC)
Normal Cost	31.71%	$150,155,000
Expense Load	2.10	9,944,000
Accrued Liability	(14.37)	(68,052,000)
Sub-Total	19.44%	$92,047,000
DC Code Adjustment		1,014,000
Total		$93,061,000

Section VII – Risk Assessment

OVERVIEW

Actuarial Standards of Practice (ASOP) No. 51, issued by the Actuarial Standards Board, provides guidance on assessing and disclosing risks related to pension plan funding. This guidance is binding on all credentialed actuaries practicing in the United States. While this standard will be first effective for the October 1, 2019 valuation, we have included some analysis in this valuation to introduce these new concepts to the Board and to provide information that can be useful to the Board and others in their oversight of DCRB.

The term “risk” frequently has a negative connotation, but from an actuarial perspective, it may be thought of as simply the fact that what actually happens in the real world will not always match what was expected, based on actuarial assumptions. Of course, when actual experience is better than expected, the favorable risk is easily absorbed. The risk of unfavorable experience will likely be unpleasant, and so there is an understandable focus on the aspects of risk that are negative.

Risk usually can be reduced or eliminated at some cost. Consumers, for example, buy auto and home insurance to reduce the risk of financial loss due to accidents or catastrophes. Another way to express this concept, however, is that there is generally some reward for assuming risk. Thus, retirement plans invest not just in US Treasury bonds which have almost no risk, but also in equities which are considerably riskier – because they have an expected reward of a higher return that justifies the risk.

Under ASOP 51, the actuary is called on to identify the significant risks to the pension plan and provide information to help those sponsoring and administering the plan understand the implications of these risks. In this section, we identify some of the key risks for DCRB and provide information to help interested parties better understand these risks.

Section VII – Risk Assessment

INVESTMENT RISK

The investment return on assets is the most obvious risk – and usually the largest risk – to funding a pension plan. To illustrate the magnitude of this risk, please review the following chart showing the Asset Volatility Ratio (AVR), defined as the market value of assets divided by covered payroll (dollars in millions).

Valuation	Teachers' Retirement Plan			Police Officers and Firefighters' Retirement Plan		
	Market Value of Assets	Covered Payroll	Asset Volatility Ratio	Market Value of Assets	Covered Payroll	Asset Volatility Ratio
2010	$1,314	$338	3.89	$2,921	$424	6.89
2011	1,341	384	3.49	3,127	421	7.43
2012	1,503	381	3.94	3,682	415	8.87
2013	1,622	369	4.40	4,168	413	10.09
2014	1,746	379	4.61	4,588	438	10.47
2015	1,671	417	4.01	4,462	446	10.00
2016	1,822	438	4.16	4,954	438	11.31
2017	2,051	448	4.58	5,630	442	12.74
2018	2,193	471	4.66	6,016	454	13.25

The asset volatility ratio is especially useful to compare across plans or through time. It is also frequently useful to consider how the AVR translates into changes in the Required Contribution Rate (actuarially determined contribution rate). For example, the following table demonstrates that with an AVR of 4.00, if the market value return is 10% below assumed, or negative 3.50% for DCRB, there will be an increase in the Required Contribution Rate of 0.73% of payroll in the first year. Without asset smoothing or without returns above the expected return in the next four years, the impact on the Required Contribution Rate would be 3.63%. A higher AVR, as is seen in the Police Officers and Firefighters' Retirement Plan, would produce even more volatility in the Required Contribution Rate.

	Impact of Return 10% Below Expected (Percent of Payroll)		
AVR	Asset Value	Unsmoothed Amortization	Smoothed Amortization
4.0	40%	3.63%	0.73%
5.0	50%	4.54	0.91
6.0	60%	5.45	1.09
7.0	70%	6.35	1.27
8.0	80%	7.26	1.45
9.0	90%	8.17	1.63
10.0	100%	9.08	1.82
11.0	110%	9.98	2.00
12.0	120%	10.89	2.18
13.0	130%	11.80	2.36
14.0	140%	12.71	2.54

Section VII – Risk Assessment

SENSITVITY MEASURES

Valuations are generally performed with a single set of assumptions that reflects the best estimate of future conditions, in the opinion of the actuary and typically the governing board. Note that under actuarial standards of practice, the set of economic assumptions used for funding must be consistent. To enhance the understanding of the importance of an assumption, a sensitivity test can be performed where the valuation results are recalculated using a different assumption or set of assumptions.

The following table contains the key measures for DCRB under the valuation assumption for investment return of 6.5%, along with the results if the assumption were 5.5% or 7.5%. In this analysis, only the investment return assumption is changed. Consequently, there may be inconsistences between the investment return and other economic assumptions such as inflation or payroll increases. In addition, simply because the valuation results under alternative assumptions are shown here, it should not be implied that Cavanaugh Macdonald Consulting believes that either assumption (5.5% or 7.5%) would comply with actuarial standards of practice.

Teachers' Retirement Plan	Investment Return Assumption		
	5.50%	6.50%	7.50%
Normal Cost Rate	12.41%	7.97%	4.80%
Amortization of UAAL	11.07%	3.70%	(3.13)%
Total Required Contribution	23.48%	11.67%	1.67%
Contribution in Dollars ($M) – Minimum Normal Cost	$116.8	$58.9	$25.2
Funded Ratio	79.12%	92.99%	107.92%
Actuarial Accrued Liability ($M)	$2,704.8	$2,301.3	$1,982.8
Unfunded Actuarial Accrued Liability ($M)	$564.9	$161.4	$(157.1)

Police Officers and Firefighters' Retirement Plan	Investment Return Assumption		
	5.50%	6.50%	7.50%
Normal Cost Rate	46.79%	33.81%	24.25%
Amortization of UAAL	5.71%	(14.37)%	(32.45)%
Total Required Contribution	52.50%	19.44%	0.00%
Contribution in Dollars ($M) – Minimum Employee Contribution	$249.4	$93.0	$37.7
Funded Ratio	94.21%	111.96%	131.43%
Actuarial Accrued Liability ($B)	$6,208.1	$5,223.8	$4,449.8
Unfunded Actuarial Accrued Liability ($B)	$359.6	$(624.8)	$(1,398.7)

Section VII – Risk Assessment

MORTALITY RISK

The mortality assumption is a significant assumption for valuation results, second only to the investment assumption in most situations. The DCRB mortality assumption utilizes a mortality table (with separate rates for males and females, as well as different rates by status) and a projection scale for how the mortality table is expected to improve through time. This approach is the current state of the art in retirement actuarial practice, made possible by the increase in computational power over the past 20 years.

The future, however, is not known, and actual mortality improvements may occur at a faster rate than expected, or at a slower rate than expected (or even decline). Although changes in mortality will affect the benefits paid, this assumption is carefully studied during the regular experience studies that DCRB conducts so that incremental changes can be made to smoothly reflect unfolding experience.

CONTRIBUTION RISK

DCRB is primarily funded by member and employer contributions to the trust fund, together with the earnings on those accumulated contributions. Each year in the valuation, the Required Contribution Rate is determined, based on DCRB's funding policy (also in statute). This rate is the sum of the rates for the normal cost for the plan, the amortization of the UAAL, and the administrative expenses. Since the District is obligated to make 100% of the Required Contribution Rate by statute, there is no contribution risk for the Retirement Plans.

Section VIII – Accounting Information

1. Governmental Accounting Standards Board (GASB) Statements 67 and 68 are now used to determine the accounting results for the plans and are provided in a separate report. GASB 25 and 27 results are provided for informational purposes only. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ALL MEMBERS
AS OF OCTOBER 1, 2018

GROUP	RETIREMENT PLAN			
	Teachers	Police Officers	Firefighters	Total
Retirees and survivors currently receiving benefits	3,990	2,593	848	7,431
Terminated employees entitled to benefits but not yet receiving benefits	1,429	222	93	1,744
Inactive Members	523	81	20	624
Active Members				
Vested	2,486	2,707	1,469	6,662
Non-vested	2,580	860	313	3,753
Total Active Members	5,066	3,567	1,782	10,415
Totals	11,008	6,463	2,743	20,214

Section VIII – Accounting Information

2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
($ IN THOUSANDS)

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
			TEACHERS' RETIREMENT PLAN			
10/1/2014	$1,638,583	$1,849,230	$210,647	88.6 %	$378,926	55.6 %
10/1/2015	1,732,017	1,953,305	221,288	88.7 %	417,090	53.1 %
10/1/2016	1,845,476	2,029,640	184,164	90.9 %	438,079	42.0 %
10/1/2017	1,982,019	2,142,491	160,472	92.5 %	447,762	35.8 %
10/1/2018	2,139,911	2,301,314	161,403	93.0 %	470,749	34.3 %
			POLICE OFFICERS AND FIREFIGHTERS' RETIREMENT PLAN			
10/1/2014	$4,288,727	$3,998,537	($290,190)	107.3 %	$438,415	(66.2)%
10/1/2015	4,607,300	4,283,093	(324,206)	107.6 %	446,201	(72.7)%
10/1/2016	4,985,051	4,498,513	(486,538)	110.8 %	438,114	(111.1)%
10/1/2017	5,406,366	4,878,260	(528,106)	110.8 %	441,905	(119.5)%
10/1/2018	5,848,576	5,223,760	(624,816)	112.0 %	454,209	(137.6)%
			TOTAL			
10/1/2014	$5,927,310	$5,847,767	($79,543)	101.4 %	$817,341	(9.7)%
10/1/2015	6,339,317	6,236,398	(102,918)	101.7 %	863,291	(11.9)%
10/1/2016	6,830,527	6,528,153	(302,374)	104.6 %	876,193	(34.5)%
10/1/2017	7,388,385	7,020,751	(367,634)	105.2 %	889,667	(41.3)%
10/1/2018	7,988,487	7,525,074	(463,413)	106.2 %	924,958	(50.1)%

Section VIII – Accounting Information

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at October 1, 2018.

	Teachers	Police Officers & Firefighters
Valuation Date	10/1/2018	10/1/2018
Actuarial cost method	Entry Age Normal	Entry Age Normal
Amortization method	Level Dollar Closed	Level Dollar Closed
Remaining amortization period	13.3 years	13.9 years
Asset valuation method	5 year smoothed Market	5 year smoothed Market
Actuarial assumptions:		
Investment rate of return*	6.50%	6.50%
Projected salary increases**	5.50 – 8.63%	4.25 – 9.98%
Cost of living adjustments:	3.50% (COLA limited to 3.00% for those hired after 11/1/1996)	3.50% (COLA limited to 3.00% for those hired after 11/10/1996)

* Includes inflation of 3.50%.
** Includes wage inflation of 4.25%.

Section IX – Experience

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended September 30, 2018 is shown below.

Teachers' Retirement Plan

			$ Thousands
(1)	UAAL* as of October 1, 2017	$	160,472
(2)	Total normal cost from last valuation (Including expenses)		69,108
(3)	Total actual contributions		99,370
(4)	Interest accrual: [[(1) + (2)] x .065] – [(3) x .0325]		11,693
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	$	141,903
(6)	Change due to plan amendments		0
(7)	Change due to actuarial assumptions or methods		0
(8)	Expected UAAL after changes: (5) + (6) + (7)	$	141,903
(9)	Actual UAAL as of October 1, 2018	$	161,403
(10)	Gain/(loss): (8) – (9)	$	(19,500)
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($2,142,491)		(0.9)%

*Unfunded actuarial accrued liability.

Valuation Date September 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2015	(0.5)%
2016	1.9
2017	3.1
2018	(0.9)

Section IX – Experience

Police Officers and Firefighters' Retirement Plan

			$ Thousands
(1)	UAAL* as of October 1, 2017	$	(528,106)
(2)	Total normal cost from last valuation (including expenses)		180,774
(3)	Total actual contributions		140,074
(4)	Interest accrual: [[(1) + (2)] x .065] – [(3) x .0325]		(27,129)
(5)	Expected UAAL before changes: (1) + (2) – (3) + (4)	$	(514,535)
(6)	Change due to plan amendments		0
(7)	Change due to actuarial assumptions or methods		0
(8)	Expected UAAL after changes: (5) + (6) + (7)	$	(514,535)
(9)	Actual UAAL as of October 1, 2018	$	(624,816)
(10)	Gain/(loss): (8) – (9)	$	110,280
(11)	Gain/(loss) as percent of actuarial accrued liabilities at start of year ($4,878,260)		2.3%

*Unfunded actuarial accrued liability.

Valuation Date September 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2015	1.9%
2016	4.0
2017	3.2
2018	2.3

Schedule A – Valuation Balance Sheet and Solvency Test

SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE DISTRICT OF COLUMBIA RETIREMENT BOARD AS OF OCTOBER 1, 2018

TEACHERS' RETIREMENT PLAN

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		2,139,911,003
Present value of future members' contributions		278,863,039
Present value of future employer contributions		
Normal contributions	$296,006,014	
Unfunded accrued liability contributions	161,403,058	
Total prospective employer contributions		457,409,072
Total Present and Prospective Assets		$2,876,183,114
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		$1,054,091,064
Present value of prospective benefits payable on account of inactive members		180,705,046
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$1,325,984,381	
Disability retirement benefits	32,268,502	
Survivor benefits	19,499,150	
Separation benefits	263,634,971	
Total		1,641,387,004
Total Actuarial Liabilities		$2,876,183,114

Schedule A – Valuation Balance Sheet and Solvency Test

SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE DISTRICT OF COLUMBIA RETIREMENT BOARD AS OF OCTOBER 1, 2018

POLICE OFFICERS & FIREFIGHTERS' RETIREMENT PLAN

PRESENT AND PROSPECTIVE ASSETS		
Actuarial Value of Present Assets		5,848,576,374
Present value of future members' contributions		362,332,767
Present value of future employer contributions		
Normal contributions	$1,666,905,633	
Unfunded accrued liability contributions	(624,815,658)	
Total prospective employer contributions		1,042,089,975
Total Present and Prospective Assets		$7,252,999,116
ACTUARIAL LIABILITIES		
Present value of benefits payable on account of retired members and survivors of deceased members now drawing retirement benefits		$2,170,286,507
Present value of prospective benefits payable on account of inactive members		88,408,692
Present value of prospective benefits payable on account of present active members:		
Service retirement benefits	$4,469,905,317	
Disability retirement benefits	230,591,346	
Survivor benefits	91,144,686	
Separation benefits	202,662,568	
Total		4,994,303,917
Total Actuarial Liabilities		$7,252,999,116

Schedule A – Valuation Balance Sheet and Solvency Test

($ IN THOUSANDS)

	Aggregate Accrued Liabilities For				Portion of Accrued Liabilities Covered by Reported Asset		
Valuation Date	(1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Reported Assets	(1)	(2)	(3)
TEACHERS' RETIREMENT PLAN							
10/1/2014	$141,943	$968,446	$738,841	$1,746,030	100%	100.0%	86.0%
10/1/2015	144,927	1,053,078	755,300	1,670,976	100%	100.0%	62.6%
10/1/2016	152,459	1,108,032	769,149	1,822,113	100%	100.0%	73.0%
10/1/2017	156,263	1,154,696	831,532	2,051,006	100%	100.0%	89.0%
10/1/2018	165,629	1,234,796	900,889	2,193,598	100%	100.0%	88.0%
POLICE OFFICERS AND FIREFIGHTERS' RETIREMENT PLAN							
10/1/2014	$255,735	$1,149,515	$2,593,287	$4,588,319	100%	100.0%	100.0%
10/1/2015	262,674	1,388,908	2,631,511	4,462,228	100%	100.0%	100.0%
10/1/2016	260,786	1,650,195	2,587,532	4,954,464	100%	100.0%	100.0%
10/1/2017	261,428	1,990,699	2,626,133	5,629,911	100%	100.0%	100.0%
10/1/2018	267,845	2,258,695	2,697,220	6,015,953	100%	100.0%	100.0%

Schedule B – Development of Actuarial Value of Assets

TEACHERS' RETIREMENT PLAN
AS OF OCTOBER 1, 2018

(1)	Actuarial Value Beginning of Year*		$	1,982,018,820
(2)	Market Value End of Year		$	2,193,598,000
(3)	Market Value Beginning of Year		$	2,051,006,000
(4)	Cash Flow			
	a.	Contributions	$	99,370,000
	b.	Benefit Payments, Refunds, and Transfers		(84,556,000)
	c.	Administrative Expenses		(4,374,000)
	d.	Net Cash Flow: [(4)a + (4)b + (4)c]	$	10,440,000
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)d	$	132,152,000
	b.	Assumed Rate		6.50%
	c.	Amount of Immediate Recognition	$	133,654,690
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(1,502,690)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: (1/5) x (5)d	$	(300,538)
	b.	First Prior Year		20,395,559
	c.	Second Prior Year		(2,099,176)
	d.	Third Prior Year		(2,099,176)
	e.	Fourth Prior Year		(2,099,176)
	f.	Total Recognized Investment Gain	$	13,797,493
(7)	Preliminary Actuarial Value End of Year: (1) + (4)d + (5)c + (6)f		$	2,139,911,003
(8)	Actuarial Value End of Year with 20% Corridor Applied:		$	2,139,911,003
(9)	Rate of Return on Actuarial Value of Assets			7.42%

*Prior to any corridor restraints.

Schedule B – Development of Actuarial Value of Assets

POLICE OFFICERS & FIREFIGHTERS' RETIREMENT PLAN
AS OF OCTOBER 1, 2018

(1)	Actuarial Value Beginning of Year*		$	5,406,366,400
(2)	Market Value End of Year		$	6,015,953,000
(3)	Market Value Beginning of Year		$	5,629,911,000
(4)	Cash Flow			
	a.	Contributions	$	140,074,000
	b.	Benefit Payments, Refunds, and Transfers		(108,374,000)
	c.	Administrative Expenses		(12,008,000)
	d.	Net Cash Flow: [(4)a + (4)b + (4)c]	$	19,692,000
(5)	Investment Income			
	a.	Market total: (2) – (3) – (4)d	$	366,350,000
	b.	Assumed Rate		6.50%
	c.	Amount of Immediate Recognition	$	366,584,205
	d.	Amount for Phased-in Recognition: (5)a – (5)c	$	(234,205)
(6)	Phased-In Recognition of Investment Income			
	a.	Current Year: (1/5) x (5)d	$	(46,841)
	b.	First Prior Year		55,791,685
	c.	Second Prior Year		62,975
	d.	Third Prior Year		62,975
	e.	Fourth Prior Year		62,975
	f.	Total Recognized Investment Gain	$	55,933,769
(7)	Preliminary Actuarial Value End of Year: (1) + (4)d + (5)c + (6)f		$	5,848,576,374
(8)	Actuarial Value End of Year with 20% Corridor Applied:		$	5,848,576,374
(9)	Rate of Return on Actuarial Value of Assets			7.79%

*Prior to any corridor restraints.

Schedule C – Summary of Changes in Net Assets

TEACHERS' RETIREMENT PLAN
FOR THE YEAR ENDING OCTOBER 1, 2018

Additions for the Year		
Contributions:		
Members (including purchased service)	$ 40,324,000	
Employers	59,046,000	
Total		$ 99,370,000
Net Investment Income		132,152,000
TOTAL		$ 231,522,000
Deductions for the Year		
Benefit Payments (including refunds and transfers)	$ (84,556,000)	
Administrative Expenses	(4,374,000)	
TOTAL		$ (88,930,000)
Excess of Additions Over Deductions		$ 142,592,000
Reconciliation of Asset Balances		
Market Value of Assets as of 9/30/2017		$ 2,051,006,000
Excess of Additions over Deductions		142,592,000
Market Value of Assets as of 9/30/2018*		$ 2,193,598,000
Rate of Return on Market Value of Assets**		6.43%

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).

** Based on the approximation formula: I/[0.5x(A + B- I)], where
I = Investment increment
A = Beginning of year asset value
B = End of year asset value

Schedule C – Summary of Changes in Net Assets

POLICE OFFICERS & FIREFIGHTERS' RETIREMENT PLAN
FOR THE YEAR ENDING OCTOBER 1, 2018

Additions for the Year		
Contributions:		
Members (including purchased service)	$ 34,478,000	
Employers	105,596,000	
Total		$ 140,074,000
Net Investment Income		366,350,000
TOTAL		$ 506,424,000
Deductions for the Year		
Benefit Payments (including refunds and transfers)	$ (108,374,000)	
Administrative Expenses	(12,008,000)	
TOTAL		$ (120,382,000)
Excess of Additions Over Deductions		$ 386,042,000
Reconciliation of Asset Balances		
Market Value of Assets as of 9/30/2017		$ 5,629,911,000
Excess of Additions over Deductions		386,042,000
Market Value of Assets as of 9/30/2018*		$ 6,015,953,000
Rate of Return on Market Value of Assets**		6.50%

* The Market Value of Assets shown above is used in the determination of the Actuarial Value of Assets (Schedule B).

** Based on the approximation formula: I/[0.5x(A + B- I)], where
I = Investment increment
A = Beginning of year asset value
B = End of year asset value

Schedule D – Outline of Actuarial Assumptions and Methods

(DEMOGRAPHIC ASSUMPTIONS ADOPTED ON JUNE 22, 2017)
(ECONOMIC ASSUMPTIONS ADOPTED ON JUNE 22, 2017)

VALUATION DATE: All assets and liabilities are computed as of October 1, 2018. Demographic information was collected as of June 30, 2018.

INVESTMENT RATE OF RETURN: 6.50% per annum, compounded annually (net of investment expenses).

INFLATION ASSUMPTION: 3.50% per annum.

PAYROLL GROWTH ASSUMPTION: 4.25% per annum.

PERCENT MARRIED: 64% of Teachers are assumed to be married and 80% of Police Officers and Firefighters are assumed to be married, with the wife 3 years younger than the husband. Active members are assumed to have one dependent child aged 10.

ACTUARIAL METHOD: Entry Age Normal Cost Method. The amortization of the unfunded actuarial accrued liability uses a level dollar basis.

ASSETS: The method of valuing assets is intended to recognize a “smoothed” market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return on market value is recognized over a five-year period. The actuarial value of assets is constrained to an 80% to 120% corridor around market value of assets.

WITHDRAWAL ASSUMPTION: For Teachers and Firefighters, it was assumed that 15% of the vested members who terminate elect to withdraw their contributions while the remaining 85% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date. For Police Officers, it was assumed that 25% of the vested members who terminate elect to withdraw their contributions while the remaining 75% elect to leave their contributions in the plan.

OTHER ASSUMPTIONS: To value the pre-retirement death benefit for Police Officers and Firefighters, the benefit form for all retirements (normal or disabled) is assumed to be a 67.8% Joint and Survivor annuity for all participants (based on 40% of average pay survivor benefits). One-fourth of all Police Officers and Firefighter active deaths are assumed to occur in the line of duty.

COST-OF-LIVING ADJUSTMENT: The cost of living, as measured by the Consumer Price Index (CPI), will increase at the rate of 3.5% per year for members hired before November 1, 1996, and 3.0% per year for members hired on or after November 1, 1996.

MILITARY SERVICE: All Police and Fire members are assumed to have 0.40 years of military service at retirement.

Schedule D – Outline of Actuarial Assumptions and Methods

ADMINISTRATIVE EXPENSES: For Teachers, budgeted administrative expenses of 1.20% of payroll are added to the normal cost rate. For Police Officers and Firefighters, budgeted administrative expenses of 2.10% of payroll are added to the normal cost rate.

MORTALITY: The RPH-2014 Blue Collar Mortality Table projected generationally with Scale BB, set back 1 year for males is used for healthy active members, retirees, and beneficiaries. The RPH-2014 Disabled Mortality Table set back 6 years for males and set forward 7 years for females is used for disabled retirees. Mortality improvement is anticipated under these assumptions.

Schedule D – Outline of Actuarial Assumptions and Methods

TEACHERS

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows, and include inflation at 4.25% per annum:

	Pay Increase Assumptions for an Individual Member		
Years of Service	Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
5	4.20%	4.25%	8.63%
10	3.20	4.25	7.59
15	1.20	4.25	5.50
20	1.20	4.25	5.50
25	1.20	4.25	5.50
30	1.20	4.25	5.50
35	1.20	4.25	5.50

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal, service retirement, and disability are shown in the following tables:

Percent of Members Separating Within the Next Year					
	Withdrawal		Service Retirement		
Sample Ages	5 years of service and up [1]		Under 30 yrs service	30 & up yrs service	Disability Retirement
	Male	Female			
25	18.00%	18.00%			0.01%
30	16.00	16.00			0.02
35	12.00	10.00			0.03
40	12.00	8.00			0.07
45	8.00	6.50			0.12
50	8.00	6.50	5.00%	5.00%	0.20
55	8.00	6.50	9.00	22.00	0.25
60			27.00	28.00	0.30
62			22.00	25.00	
65			25.00	35.00	
70			30.00	30.00	
71			25.00	30.00	
75			100.00	100.00	

[1] Members of any age with less than 5 years of service have withdrawal rates of 18% to 26% for males, and 16% to 23% for females

Schedule D – Outline of Actuarial Assumptions and Methods

POLICE OFFICERS

SALARY INCREASES: Police Officers are assumed to receive longevity increases applied to individual base pay after 25, and 30 years of service. Representative values of the assumed annual rates of future salary increases before longevity increases are as follows and include inflation at 4.25% per annum:

	Pay Increase Assumptions for an Individual Member		
Years of Service	Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
5	2.00%	4.25%	6.34%
10	2.00	4.25	6.34
15	2.00	4.25	6.34
20	1.75	4.25	6.07
25	0.75	4.25	5.03
30	0.00	4.25	4.25

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal, service retirement, and disability are shown in the following tables:

	Percent of Members Separating Within the Next Year					
Sample Ages	Withdrawal (5 years of service & up)[1]		Disability Retirement[2]		Years of Service	Service Retirement[3]
	Males	Females	Males	Females		
20	5.00%	5.00%	0.03%	0.02%	20	15.0%
25	5.00	5.00	0.06	0.05	25	22.0
30	4.25	4.50	0.11	0.10	30	38.0
35	2.75	3.50	0.16	0.15	35	18.0
40	1.50	1.50	0.23	0.30	40	16.0
45	1.50	1.50	0.32	0.40		
50	1.50	1.50	0.42	0.60		
55	1.50	1.50	0.44	0.70		
60	1.50	1.50	0.51	1.00		

[1] Members of any age with less than 5 years of service have withdrawal rates of 6% to 13% for males, and 5% to 11% for females
[2] It is assumed that 75% of the disabilities are due to accidents in the line of duty and the 'percent of disability" is assumed to be 100%.
[3] 100% of active members are assumed to retire at age 65, regardless of service.

Schedule D – Outline of Actuarial Assumptions and Methods

FIREFIGHTERS

SALARY INCREASES: Firefighters are assumed to receive longevity increases applied to individual base pay after 15, 20, 25, and 30 years of service. Representative values of the assumed annual rates of future salary increases before longevity increases are as follows and include inflation at 4.25% per annum:

	Pay Increase Assumptions for an Individual Member		
Years of Service	Merit & Seniority	Inflation & Productivity (Economy)	Total Increase (Next Year)
5	3.00%	4.25%	7.38%
10	3.00	4.25	7.38
15	3.00	4.25	7.38
20	1.25	4.25	5.55
25	1.25	4.25	5.55
30	1.25	4.25	5.55
35	1.25	4.25	5.55

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal, service retirement, and disability are shown in the following tables:

Percent of Members Separating Within the Next Year				
Sample Ages	Withdrawal (5 years of service & up)[1]	Disability Retirement[2]	Years of Service	Service Retirement[3]
20	3.00%	0.01%	20	12.5%
25	3.00	0.05	25	12.5
30	2.60	0.18	30	22.0
35	1.80	0.25	35	40.0
40	1.40	0.30	40	40.0
45	1.20	0.35		
50	1.20	0.40		
55	0.80	0.45		
60	0.60	0.50		

[1] Members of any age with less than 5 years of service have withdrawal rates of 4.0% to 7.5%.

[2]It is assumed that 75% of the disabilities are due to accidents in the line of duty and the “percent of disability” is assumed to be 100%.

[3]100% of active members are assumed to retire at age 60, regardless of service.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

TEACHERS' RETIREMENT PLAN

Effective Date

Established on July 1, 1997. The U.S. Department of the Treasury is responsible for paying all benefits accrued before this date.

DEFINITIONS

Affiliated Employers

District of Columbia Public Schools

Covered Members

Permanent, temporary, and probationary teachers who work for the District of Columbia public day schools become members automatically on their date of employment. Other employees covered by the Retirement of Public School Teachers Act – including librarians, principals, and counselors – also become members on their date of employment. Substitute teachers are not covered. Some former D.C teachers working at charter schools are eligible to remain in the Program.

Service Credit

One year of school service is given for each year of employment with DCPS. After five years of service are accrued, additional service may be purchased or credited for service outside of DCPS. For purposes of eligibility and benefit accrual, federal service is included in the calculation of the normal retirement benefit.

Average Salary

Highest 36 consecutive months of pay, divided by three.

Vested

Members who accrue five or more years of Service Credit are vested for benefits. If these members leave service, they may leave their Member Contribution Accounts with the Plan for a future benefit when reaching eligibility (deferred vested in this report).

CONTRIBUTIONS

Member Contributions

Members hired before November 1, 1996 are required to contribute 7% of annual pay. Members hired on or after November 1, 1996 contribute 8% of annual pay. Interest is not credited to each Member's accumulated contributions.

Refund of Member Contributions

In the event a member leaves service for a reason other than death or retirement, member contribution accounts are refunded upon request.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

SERVICE RETIREMENT

Eligibility

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

- **Members hired before November 1, 1996**

Age	Service Credit
55	30, including 5 years school service
60	20, including 5 years school service
62	5 years school service

- **Members hired on and after November 1, 1996**

Age	Service Credit
Any Age	30, including 5 years school service
60	20, including 5 years school service
62	5 years school service

Benefit

For members hired before November 1, 1996:

- 1.5% of Average Salary times service up to 5 years, plus
- 1.75% of Average Salary times service between 5 and 10 years, plus
- 2.0% of Average Salary times service over 10 years.

For members hired on or after November 1, 1996:

- 2.0% of Average Salary times service.

All members receive a minimum benefit of 1.0% of Average Salary plus $25 for each year of service.

INVOLUNTARY SERVICE RETIREMENT

Eligibility

The Age and Service Credit requirements to be eligible for a Reduced Service Retirement are listed below:

- **All Members, regardless of date of hire**

Age	Service Credit
Any Age	25, including 5 years school service
50	20, including 5 years school service

Benefit

Service Retirement Benefit reduced by 1/6% per month (or 2% per year) that date of retirement precedes age 55.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

DISABILITY RETIREMENT

Eligibility

Active members with five or more years of school service credit are covered (vested) for disability retirement. To be eligible, the member must be found to be incapable of satisfactorily performing the duties of his/her position.

Benefit

Equal to Service Retirement benefit. Minimum benefit is the lesser of a) or b):

a) 40% of Average Salary
b) Calculated benefit amount by projecting service to age 60.

SURVIVOR BENEFITS

LUMP SUM
Eligibility

Death before completion of 18 months of school service or death without an eligible spouse, child or parent.

Benefit

Refund of member contributions.

SPOUSE/DOMESTIC PARTNER ONLY
Eligibility

Death before retirement and married/registered domestic partnership for at least two years, or have a child by the marriage or registered domestic partnership.

Benefit

55% of Service Retirement benefit. Minimum benefit is the lesser of a) or b):

a) 55% of 40% of Average Salary
b) 55% of the calculated benefit amount by projecting service to age 60.

SPOUSE/DOMESTIC PARTNER & DEPENDENT CHILDREN
Eligibility

Death before retirement and married/registered domestic partnership for at least two years, or have a child by the marriage or registered domestic partnership. Children must be unmarried and under age 18, 22 if full-time student, or any dependent child having a disability incurred before age 18. Death does not have to occur before retirement for the children's benefit.

Spouse/Domestic Partner Benefit

55% of Service Retirement benefit. Minimum benefit is the lesser of a) or b):

a) 55% of 40% of Average Salary
b) 55% of the calculated benefit amount by projecting service to age 60.

Child Benefit

A benefit per child equal to the smallest of a) or b) or c):

a) 60% of Average Salary divided by the number of eligible children
b) $7,083* (if hired before 1/1/1980), $6,840* (if hired between 1/1/1980 and 10/31/1996), or $6,661* (if hired on or after 11/1/1996) per child

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

c) $21,419* (if hired before 1/1/1980), $20,685* (if hired between 1/1/1980 and 10/31/1996), or $20,144* (if hired on or after 11/1/1996) divided by the number of children.

DEPENDENT CHILDREN ONLY

Eligibility Children must be unmarried and under age 18, 22 if full-time student, or any dependent child having a disability incurred before age 18. Death does not have to occur before retirement for the children's benefit.

Benefit A benefit per child equal to the smallest of a) or b) or c):

a) 75% of Average Salary divided by the number of eligible children
b) $8,656* (if hired before 1/1/1980), $8,336* (if hired between 1/1/1980 and 10/31/1996), or $7,253* (if hired on or after 11/1/1996) per child
c) $26,175* (if hired before 1/1/1980), $25,210* (if hired between 1/1/1980 and 10/31/1996), or $24,436* (if hired on or after 11/1/1996) divided by the number of children.

PARENTS ONLY

Eligibility Death before retirement and no eligible spouse/domestic partner or children, and parents must have received at least one-half of their total income from the member immediately before the member's death.

Benefit 55% of Service Retirement benefit. Minimum benefit is the lesser of a) or b):

a) 55% of 40% of Average Salary
b) 55% of the calculated benefit amount by projecting service to age 60.

*Survivor benefit amounts are as of March 1, 2018, and are subject to annual inflation adjustments.

DEFERRED VESTED RETIREMENT

Eligibility Active members with five or more years of school service credit.

Benefit Benefit is calculated in the same manner as Service Retirement benefit and may be collected starting at age 62.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

RETIREMENT OPTIONS

Retirement and disability benefits are payable for the life of the retired member. Optional reduced benefits may be elected at the time of retirement to provide for continuation of a reduced benefit amount to a designated beneficiary. Optional forms include:

a) Reduced Annuity with a Maximum Survivor Annuity (to Spouse or Registered Domestic Partner)
Reduced benefit paid to the member so that upon the member's death, the spouse/domestic partner will receive 55% of the unreduced (normal life) annuity. Member's benefit is reduced by 2.5% of retirement benefit, up to $3,600, plus 10% of any retirement benefit over $3,600.

b) Reduced Annuity with a Partial Survivor Annuity (to Spouse or Registered Domestic Partner)
Reduced benefit paid to the member so that upon the member's death, the spouse/domestic partner will receive a partial annuity that can range from $1 up to any amount less than 55% of the unreduced (normal life) annuity amount. Member's benefit is reduced by the same amount as option a) above, multiplied by the ratio of the chosen benefit percent to the maximum benefit percent (55%).

c) Reduced Annuity with a Life Insurance Benefit
Member elects a life insurance amount, payable in a lump sum to a designated beneficiary upon the member's death.

d) Reduced Annuity with a Survivor Annuity to a Person with an Insurable Interest
A 55% joint and survivor annuity where the original benefit is reduced by 10% plus an additional 5% for each full 5 years, up to 25 years, that the designated beneficiary is younger than the member. Maximum reduction is 40% for any beneficiary who is 25 or more years younger than the member.

COST-OF-LIVING ADJUSTMENTS (COLA)

Each year on March 1, benefits which have been paid for at least twelve months preceding March 1 may be increased. The increase is equal to the annual CPI. COLA's are included in benefit payments on and after April 1. If a member's retirement is effective after March 1 of the preceding year, the COLA amount will be prorated.

For members hired on or after November 1, 1996, the cost-of-living increase is limited to no more than 3% per year.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

POLICE OFFICERS & FIREFIGHTERS' RETIREMENT AS INTERPRETED FOR VALUATION PURPOSES

Effective Date Established on July 1, 1997. The U.S. Department of the Treasury is responsible for paying all benefits accrued before this date.

DEFINITIONS

Affiliated Employers The District of Columbia Metropolitan Police Department (MPD) and the District of Columbia Department of Fire and Emergency Medical Services (FEMS).

Covered Members Sworn Police Officers and Firefighters become members on their first day of active duty (cadets are not eligible). Membership is not automatic for uniformed EMT Firefighters.

Service Credit One year of service is given for each year of employment with MPD or FEMS. Additional service may be purchased or credited for lateral transfer service, EMT service, prior military service, and certain civilian service. For purposes of eligibility and benefit accrual, federal service is included in the calculation of the normal retirement benefit.

Average Salary For members hired before February 15, 1980, the highest 12 consecutive months of pay. For members hired on or after February 15, 1980, the highest 36 consecutive months of pay, divided by 3. Base pay does not include overtime, holiday or military pay.

Vested Members who accrue five or more years of Service Credit are vested for benefits. If these members leave service, they may leave their Member Contribution Accounts with the Plan for a future benefit when reaching eligibility (deferred vested in this report).

CONTRIBUTIONS

Member Contributions Members hired before November 10, 1996 contribute 7.0% of salary. Members hired on or after November 10, 1996 contribute 8.0% of salary. Member contributions, together with any purchased service credit payments, are credited to individual Member Contribution Accounts. No interest is accrued on contributions.

Refund of Member Contributions In the event a member leaves service for a reason other than death or retirement, member contribution accounts are refunded upon request.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

SERVICE RETIREMENT

Eligibility

The Age and Service Credit requirements to be eligible for a full Service Retirement are listed below:

- **Members hired before November 10, 1996**

Age	Service Credit
Any age	20 years departmental service (only if hired before 2/15/1980)
50	25 years departmental service
60	5 years departmental service

- **Members hired on and after November 10, 1996**

Age	Service Credit
Any Age	25 years departmental service
60	

Benefit

For members hired before November 10, 1996:

- 2.5% of Average Salary times departmental service up to 25 years (20 years if hired before 2/15/1980), plus
- 3.0% of Average Salary times departmental service over 25 years (or 20 years if hired before 2/15/1980), plus
- 2.5% of Average Salary times purchased or credited service.

For members hired on or after November 10, 1996:

- 2.5% of Average Salary times total service.

All members are subject to a maximum benefit of 80% of Average Salary.

SERVICE-RELATED DISABILITY RETIREMENT

Eligibility

Disabled as a result of an injury or disease that permanently disables him/her for the performance of duty.

Benefit

For members hired before February 15, 1980:
2.5% of Average Salary times total years of service, subject to a minimum of 66-2/3% of Average Salary and a maximum of 70% of Average Salary.

For members hired on or after February 15, 1980:
70% of final pay times percentage of disability, subject to a minimum of 40% of final pay.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

NONSERVICE-RELATED DISABILITY RETIREMENT

Eligibility	Active members with five or more years of departmental service are covered (vested) for disability retirement. The member is eligible if found that the disability precludes further service with his/her department.
Benefit	**For members hired before February 15, 1980:** 2.0% of Average Salary times total years of service, subject to a minimum of 40% of Average Salary and a maximum of 70% of Average Salary. **For members hired on or after February 15, 1980:** 70% of final pay times percentage of disability, subject to a minimum of 30% of final pay.

SURVIVOR BENEFITS

LUMP SUM	
Eligibility	Death before retirement without an eligible spouse or child.
Benefit	Refund of member contributions according to Plan's order of precedence.
LUMP SUM – DEATH IN LINE OF DUTY	
Eligibility	Death occurring in the line of duty, not resulting from willful misconduct.
Benefit	$50,000
SPOUSE ONLY – DEATH IN LINE OF DUTY	
Eligibility	Member killed in line of duty, after December 29, 1993.
Benefit	100% of final pay.
SPOUSE ONLY – DEATH NOT IN LINE OF DUTY	
Eligibility	Member death, not in line of duty, after December 29, 1993. If retired, must be married for at least one year or have a child by the marriage.
Benefit	40% of the greater of a) or b): a) Average Salary b) Salary for step 6 salary class 1 of the DC Police and Fireman's Salary Act in effect, adjusted for cost-of-living increases if death occurs after retirement. Benefit cannot be higher than rate of pay at death (or retirement if death occurs after retirement).

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

SPOUSE & DEPENDENT CHILDREN

Eligibility

Member death, not in line of duty, after December 29, 1993. If retired, must be married for at least one year or have a child by the marriage. Children must be unmarried and under age 18, 22 if full-time student, or any dependent child having a disability incurred before age 18. Death does not have to occur before retirement for the children's benefit.

Spouse Benefit

40% of the greater of a) or b):

a) Average Salary
b) Salary for step 6 salary class 1 of the DC Police and Fireman's Salary Act in effect, adjusted for cost-of-living increases if death occurs after retirement.

Benefit cannot be higher than rate of pay at death (or retirement if death occurs after retirement).

Child Benefit

A benefit per child equal to the smallest of a) or b) or c):

a) 60% of Average Salary divided by the number of eligible children
b) $4,163* (if hired before 11/10/1996) or $4,072* (if hired on or after 11/10/1996) per child
c) $12,488* (if hired before 11/10/1996) or $12,218* (if hired on or after 11/10/1996) divided by the number of children.

DEPENDENT CHILDREN ONLY

Eligibility

Children must be unmarried and under age 18, 22 if full-time student, or any dependent child having a disability incurred before age 18. Death does not have to occur before retirement for the children's benefit.

Benefit

75% of Average Salary divided by the number of eligible children, adjusted for cost-of-living increases.

*Survivor benefit amounts are as of March 1, 2018, and are subject to annual inflation adjustments.

DEFERRED VESTED RETIREMENT

Eligibility

Active members with five or more years of departmental service.

Benefit

Benefit is calculated in the same manner as Service Retirement benefit and may be collected starting at age 55.

Schedule E – Summary of Main Plan Provisions As Interpreted for Valuation Purposes

RETIREMENT OPTIONS

Retirement and disability benefits are payable for the life of the retired member. This includes an unreduced joint and survivor annuity as defined above in the "Survivor Benefits – Spouse and Dependent Children" sections.

An optional reduced benefit may be elected at the time of retirement to provide for an additional survivor benefit to a designated beneficiary. Member's original annuity is reduced by 10% and that amount is added to the survivor's benefit. If the designated beneficiary is more than five years younger than the member, the additional amount will be reduced by 5% for each full five years that the beneficiary is younger than the member, subject to a maximum of 40%.

COST-OF-LIVING ADJUSTMENTS (COLA)

Each year on March 1, benefits which have been paid for at least twelve months preceding March 1 may be increased. The increase is equal to the annual CPI. COLA's are included in benefit payments on and after April 1. If member's retirement is effective after March 1 of the preceding year, the COLA amount will be prorated.

For members hired on or after November 10, 1996, the cost-of-living increase is limited to no more than 3% per year. Members hired before February 15, 1980, receive equalization pay, which is defined as the percentage increase of active employees' salary increases. Equalization increases are not paid to survivors.

Schedule F – Schedules of Member Data

TABLE 1

RECONCILIATION OF MEMBER DATA
AS OF OCTOBER 1, 2018

TEACHERS' RETIREMENT PLAN

	Actives	Retirees	Disabled	Beneficiaries	Vested Terms	Total
1. Headcounts as of October 1, 2017	5,199	3,636	110	153	1,330	10,428
2. Change in status during the year:						
a. Death		(54)	(3)	(4)		(61)
b. Disabled			1		(1)	
c. Retired	(55)	125			(69)	
d. Vested Termination	(257)				257	
e. Nonvested Termination	(513)				(10)	(523)
f. Benefits Expired/Refund	(153)	(4)	(2)	(2)	(48)	(209)
3. New member due to:						
a. New Hire	781					781
b. Rehire	64				(30)	34
c. Death of Participant				28		28
d. Adjustments		6				6
4. Headcounts as of October 1, 2018	5,066	3,709	106	175	1,429	10,485

Schedule F – Schedules of Member Data

TABLE 2

RECONCILIATION OF MEMBER DATA
AS OF OCTOBER 1, 2018

POLICE OFFICERS' RETIREMENT PLAN

	Actives	Retirees	Disabled	Beneficiaries	Vested Terms	Total
1. Headcounts as of October 1, 2017	3,583	1,736	310	373	246	6,248
2. Change in status during the year:						
a. Death		(16)	(5)	(3)		(24)
b. Disabled	(3)		5		(1)	
c. Retired	(112)	172			(59)	
d. Vested Termination	(53)				53	
e. Nonvested Termination	(77)				(4)	(81)
f. Benefits Expired/Refund	(30)			(9)	(9)	(48)
3. New member due to:						
a. New Hire	245					245
b. Rehire	14				(4)	10
c. Death of Participant				29		29
d. Adjustments		2	1	(2)		1
4. Headcounts as of October 1, 2018	3,567	1,894	311	388	222	6,382

Schedule F – Schedules of Member Data

TABLE 3

RECONCILIATION OF MEMBER DATA
AS OF OCTOBER 1, 2018

FIREFIGHTERS' RETIREMENT PLAN

	Actives	Retirees	Disabled	Beneficiaries	Vested Terms	Total
1. Headcounts as of October 1, 2017	1,729	575	87	134	94	2,619
2. Change in status during the year:						
a. Death		(3)	(1)	(4)	(1)	(9)
b. Disabled	(4)		5		(1)	
c. Retired	(46)	50			(4)	
d. Vested Termination	(11)				11	
e. Nonvested Termination	(17)				(3)	(20)
f. Benefits Expired/Refund	(4)			(1)	(2)	(7)
3. New member due to:						
a. New Hire	134					134
b. Rehire	1				(1)	0
c. Death of Participant				7		7
d. Adjustments		1		(2)		(1)
4. Headcounts as of October 1, 2018	1,782	623	91	134	93	2,723

Schedule F – Schedules of Member Data

TABLE 4

SCHEDULE OF ACTIVE MEMBER DATA
AS OF OCTOBER 1, 2018

TEACHERS' RETIREMENT PLAN

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	0	0	0	0	0	0	0	0	$ 0
20 to 24	46	0	0	0	0	0	0	46	$ 2,789,430
25 to 29	567	48	0	0	0	0	0	615	$ 41,451,851
30 to 34	675	336	24	1	0	0	0	1,036	$ 85,519,453
35 to 39	503	300	110	20	0	0	0	933	$ 87,217,490
40 to 44	352	192	105	93	5	0	0	747	$ 75,296,051
45 to 49	199	154	63	127	64	5	0	612	$ 62,798,538
50 to 54	116	67	48	67	33	38	16	385	$ 40,595,538
55 to 59	55	42	34	58	38	36	45	308	$ 33,292,477
60 to 64	43	31	33	43	28	30	35	243	$ 26,095,895
65 to 69	20	11	16	16	9	11	25	108	$ 11,984,193
70 & Over	4	1	4	5	6	3	10	33	$ 3,707,904
Total	2,580	1,182	437	430	183	123	131	5,066	$ 470,748,820

Average Age: 41.00
Average Service: 7.97

Schedule F – Schedules of Member Data

TABLE 5

SCHEDULE OF ACTIVE MEMBER DATA
AS OF OCTOBER 1, 2018

POLICE OFFICERS' RETIREMENT PLAN

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	0	0	0	0	0	0	0	0	$ 0
20 to 24	105	1	0	0	0	0	0	106	$ 6,289,755
25 to 29	429	94	0	0	0	0	0	523	$ 34,184,726
30 to 34	200	254	83	1	0	0	0	538	$ 38,755,748
35 to 39	78	131	329	47	0	0	0	585	$ 46,962,118
40 to 44	28	31	160	194	57	0	0	470	$ 41,217,201
45 to 49	11	25	93	180	205	146	0	660	$ 62,892,309
50 to 54	8	5	54	94	104	210	9	484	$ 47,447,419
55 to 59	1	10	18	43	28	49	28	177	$ 17,184,580
60 to 64	0	2	1	8	4	4	5	24	$ 2,349,383
65 to 69	0	0	0	0	0	0	0	0	$ 0
70 & Over	0	0	0	0	0	0	0	0	$ 0
Total	860	553	738	567	398	409	42	3,567	$ 297,283,239

Average Age: 40.04
Average Service: 13.38

Schedule F – Schedules of Member Data

TABLE 6

SCHEDULE OF ACTIVE MEMBER DATA
AS OF OCTOBER 1, 2018

FIREFIGHTERS' RETIREMENT PLAN

Attained Age	Completed Years of Service								
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total	Payroll
Under 20	0	0	0	0	0	0	0	0	$ 0
20 to 24	76	12	0	0	0	0	0	88	$ 5,273,011
25 to 29	124	41	0	0	0	0	0	165	$ 10,184,609
30 to 34	75	88	144	2	0	0	0	309	$ 22,616,753
35 to 39	26	55	222	11	0	0	0	314	$ 25,509,711
40 to 44	6	19	141	90	11	2	0	269	$ 24,368,433
45 to 49	4	3	38	110	49	95	1	300	$ 30,846,084
50 to 54	2	2	11	29	73	93	11	221	$ 24,619,658
55 to 59	0	0	0	2	25	47	30	104	$ 12,141,511
60 to 64	0	0	3	0	0	4	5	12	$ 1,365,926
65 & Over	0	0	0	0	0	0	0	0	$ 0
Total	313	220	559	244	158	241	47	1,782	$ 156,925,696

Average Age: 40.11
Average Service: 14.49

Schedule F – Schedules of Member Data

TABLE 7

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

TEACHERS' RETIREMENT PLAN
DISTRICT ONLY

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	7	$39,641	7	$39,641
20 to 24	0	$0	0	$0	2	$12,261	2	$12,261
25 to 29	0	$0	0	$0	0	$0	0	$0
30 to 34	0	$0	0	$0	0	$0	0	$0
35 to 39	0	$0	0	$0	3	$37,620	3	$37,620
40 to 44	0	$0	0	$0	3	$31,812	3	$31,812
45 to 49	0	$0	4	$155,052	2	$39,900	6	$194,952
50 to 54	7	$254,129	3	$86,172	1	$2,534	11	$342,835
55 to 59	63	$2,373,430	14	$550,116	8	$118,449	85	$3,041,995
60 to 64	334	$10,943,577	22	$614,333	16	$180,595	372	$11,738,505
65 to 69	884	$22,031,748	28	$582,436	34	$239,272	946	$22,853,456
70 to 74	1,315	$22,754,244	31	$512,073	43	$259,723	1,389	$23,526,040
75 to 79	793	$10,744,786	4	$29,894	35	$174,024	832	$10,948,704
80 to 84	248	$2,835,750	0	$0	13	$91,337	261	$2,927,087
85 to 89	57	$661,090	0	$0	6	$62,578	63	$723,668
90 to 94	6	$82,249	0	$0	1	$2,144	7	$84,393
95 & Over	2	$27,887	0	$0	1	$3,776	3	$31,663
Total	3,709	$72,708,890	106	$2,530,076	175	$1,295,665	3,990	$76,534,631

Schedule F – Schedules of Member Data

TABLE 8

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

TEACHERS' RETIREMENT PLAN
FEDERAL PLUS DISTRICT

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	7	$47,184	7	$47,184
20 to 24	0	$0	0	$0	2	$13,512	2	$13,512
25 to 29	0	$0	0	$0	0	$0	0	$0
30 to 34	0	$0	0	$0	0	$0	0	$0
35 to 39	0	$0	0	$0	3	$37,620	3	$37,620
40 to 44	0	$0	0	$0	3	$46,764	3	$46,764
45 to 49	0	$0	4	$155,052	5	$64,308	9	$219,360
50 to 54	7	$320,208	3	$86,172	2	$14,868	12	$421,248
55 to 59	63	$3,317,124	18	$643,080	12	$237,792	93	$4,197,996
60 to 64	336	$16,968,660	25	$816,288	19	$415,260	380	$18,200,208
65 to 69	894	$43,052,772	32	$1,079,952	41	$748,404	967	$44,881,128
70 to 74	1,397	$68,253,768	66	$2,103,180	75	$1,474,884	1,538	$71,831,832
75 to 79	1,041	$50,416,416	36	$1,045,488	89	$1,754,832	1,166	$53,216,736
80 to 84	700	$34,216,200	39	$1,241,928	62	$1,443,072	801	$36,901,200
85 to 89	484	$22,560,132	22	$678,069	60	$1,389,120	566	$24,627,321
90 to 94	250	$10,824,408	15	$577,572	41	$979,932	306	$12,381,912
95 & Over	112	$5,335,932	15	$618,372	26	$727,320	153	$6,681,624
Total	5,284	$255,265,620	275	$9,045,153	447	$9,394,872	6,006	$273,705,645

Schedule F – Schedules of Member Data

TABLE 9

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

POLICE OFFICERS' RETIREMENT PLAN
DISTRICT ONLY

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	38	$287,851	38	$287,851
20 to 24	0	$0	0	$0	10	$102,252	10	$102,252
25 to 29	0	$0	2	$47,424	0	$0	2	$47,424
30 to 34	0	$0	1	$26,472	1	$2,514	2	$28,986
35 to 39	0	$0	10	$344,100	2	$58,476	12	$402,576
40 to 44	0	$0	13	$451,512	5	$132,492	18	$584,004
45 to 49	1	$22,896	51	$1,970,952	25	$471,188	77	$2,465,036
50 to 54	478	$24,118,832	90	$3,279,588	49	$945,139	617	$28,343,559
55 to 59	575	$25,173,218	71	$1,747,791	53	$831,857	699	$27,752,865
60 to 64	399	$12,474,728	48	$1,023,844	62	$943,796	509	$14,442,367
65 to 69	301	$5,223,488	20	$156,535	67	$1,123,306	388	$6,503,330
70 to 74	119	$1,010,677	4	$73,016	54	$751,572	177	$1,835,265
75 to 79	21	$199,628	1	$16,145	13	$286,589	35	$502,362
80 to 84	0	$0	0	$0	5	$79,838	5	$79,838
85 to 89	0	$0	0	$0	4	$98,112	4	$98,112
90 to 94	0	$0	0	$0	0	$0	0	$0
95 & Over	0	$0	0	$0	0	$0	0	$0
Total	1,894	$68,223,467	311	$9,137,379	388	$6,114,982	2,593	$83,475,827

Schedule F – Schedules of Member Data

TABLE 10

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

POLICE OFFICERS' RETIREMENT PLAN
FEDERAL PLUS DISTRICT

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	40	$389,484	40	$389,484
20 to 24	0	$0	0	$0	12	$233,820	12	$233,820
25 to 29	0	$0	2	$47,424	0	$0	2	$47,424
30 to 34	0	$0	1	$26,472	1	$4,104	2	$30,576
35 to 39	0	$0	10	$344,100	2	$58,476	12	$402,576
40 to 44	0	$0	13	$451,512	5	$132,492	18	$584,004
45 to 49	1	$22,896	52	$1,992,324	29	$855,324	82	$2,870,544
50 to 54	478	$34,199,088	97	$3,432,420	57	$1,462,044	632	$39,093,552
55 to 59	576	$40,859,388	93	$3,365,244	80	$2,301,792	749	$46,526,424
60 to 64	433	$31,281,576	92	$3,882,648	129	$3,771,909	654	$38,936,133
65 to 69	705	$41,993,160	133	$6,238,752	217	$6,539,653	1,055	$54,771,565
70 to 74	897	$51,003,864	155	$6,871,152	273	$8,454,853	1,325	$66,329,869
75 to 79	442	$25,773,168	111	$5,321,028	223	$7,107,600	776	$38,201,796
80 to 84	223	$12,788,544	83	$4,436,904	186	$6,161,652	492	$23,387,100
85 to 89	53	$3,566,472	46	$2,665,152	110	$3,717,984	209	$9,949,608
90 to 94	17	$1,475,832	31	$1,886,724	77	$2,527,908	125	$5,890,464
95 & Over	3	$240,084	6	$417,108	35	$1,149,300	44	$1,806,492
Total	3,828	$243,204,072	925	$41,378,964	1,476	$44,868,395	6,229	$329,451,432

Schedule F – Schedules of Member Data

TABLE 11

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

FIREFIGHTERS' RETIREMENT PLAN
DISTRICT ONLY

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	18	$198,854	18	$198,854
20 to 24	0	$0	0	$0	8	$54,830	8	$54,830
25 to 29	0	$0	0	$0	0	$0	0	$0
30 to 34	0	$0	4	$91,800	2	$29,433	6	$121,233
35 to 39	0	$0	6	$214,344	1	$2,974	7	$217,318
40 to 44	0	$0	7	$276,960	1	$27,828	8	$304,788
45 to 49	0	$0	13	$551,328	8	$280,538	21	$831,866
50 to 54	45	$2,256,057	14	$421,212	11	$249,661	70	$2,926,930
55 to 59	171	$7,920,984	9	$342,722	19	$358,171	199	$8,621,877
60 to 64	230	$9,504,920	16	$309,511	20	$556,728	266	$10,371,159
65 to 69	118	$2,724,692	20	$344,565	22	$371,367	160	$3,440,625
70 to 74	50	$727,473	2	$1,655	14	$260,623	66	$989,751
75 to 79	9	$81,502	0	$0	7	$130,160	16	$211,662
80 to 84	0	$0	0	$0	3	$57,384	3	$57,384
85 to 89	0	$0	0	$0	0	$0	0	$0
90 to 94	0	$0	0	$0	0	$0	0	$0
95 & Over	0	$0	0	$0	0	$0	0	$0
Total	623	$23,215,628	91	$2,554,097	134	$2,578,551	848	$28,348,277

Schedule F – Schedules of Member Data

TABLE 12

SCHEDULE OF RETIREE MEMBER DATA
AS OF OCTOBER 1, 2018

FIREFIGHTERS' RETIREMENT PLAN
FEDERAL PLUS DISTRICT

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	0	$0	0	$0	18	$260,484	18	$260,484
20 to 24	0	$0	0	$0	9	$90,336	9	$90,336
25 to 29	0	$0	0	$0	0	$0	0	$0
30 to 34	0	$0	4	$91,800	2	$53,448	6	$145,248
35 to 39	0	$0	6	$214,344	1	$4,152	7	$218,496
40 to 44	0	$0	7	$276,960	2	$56,856	9	$333,816
45 to 49	0	$0	13	$551,328	8	$334,812	21	$886,140
50 to 54	45	$3,155,220	14	$421,212	13	$384,732	72	$3,961,164
55 to 59	171	$13,052,964	12	$486,216	26	$648,288	209	$14,187,468
60 to 64	232	$19,072,572	29	$1,319,820	36	$1,201,032	297	$21,593,424
65 to 69	152	$11,528,064	48	$2,516,772	50	$1,533,552	250	$15,578,388
70 to 74	198	$13,940,640	44	$2,274,996	77	$2,432,442	319	$18,648,078
75 to 79	193	$13,155,456	75	$4,275,288	100	$3,102,008	368	$20,532,752
80 to 84	107	$7,038,564	45	$2,389,608	63	$2,040,360	215	$11,468,532
85 to 89	47	$3,408,588	27	$1,513,524	61	$2,148,732	135	$7,070,844
90 to 94	16	$1,143,000	16	$962,064	48	$1,784,940	80	$3,890,004
95 & Over	1	$58,752	6	$387,816	15	$521,256	22	$967,824
Total	1,162	$85,553,820	346	$17,681,748	529	$16,597,430	2,037	$119,832,998

Schedule G – Schedules of Retirees Added to and Removed from Rolls

DISTRICT BENEFIT ONLY
($ IN THOUSANDS)

		Added		Removed			Rolls at End of Year			
Fiscal Year Ended	Plan	Number	Annual Allowances	Number	Annual Allowances	Increase Due to Plan Amendments	Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowances
September 30, 2014	Teachers	218	$6,079	65	$955	$597	3,601	$58,687	10.8%	$16
	Police	157	$6,139	34	$399	$139	1,707	$40,271	17.1%	$24
	Fire	80	$3,326	21	$496	$211	658	$18,179	20.1%	$28
September 30, 2015	Teachers	183	$4,950	66	$822	$84	3,718	$62,899	7.2%	$17
	Police	240	$10,865	24	$189	-$535	1,923	$50,412	25.2%	$26
	Fire	44	$1,953	16	$235	-$95	686	$19,802	8.9%	$29
September 30, 2016	Teachers	222	$6,844	58	$1,021	$68	3,882	$68,790	9.4%	$18
	Police	381	$15,394	39	$822	-$1,397	2,265	$63,587	26.1%	$28
	Fire	60	$2,811	8	$200	-$262	738	$22,151	11.9%	$30
September 30, 2017	Teachers	96	$2,599	79	$1,211	$1,023	3,899	$71,201	3.5%	$18
	Police	189	$8,485	35	$537	$928	2,419	$72,463	14.0%	$30
	Fire	63	$2,802	5	$141	$411	796	$25,223	13.9%	$32
September 30, 2018	Teachers	160	$4,892	69	$977	$1,419	3,990	$76,535	7.5%	$19
	Police	208	$10,269	34	$683	$1,427	2,593	$83,476	15.2%	$32
	Fire	63	$2,910	11	$226	$441	848	$28,348	12.4%	$33

Schedule G – Schedules of Retirees Added to and Removed from Rolls

FEDERAL PLUS DISTRICT BENEFIT
($ IN THOUSANDS)

		Added		Removed			Rolls at End of Year			
Fiscal Year Ended	Plan	Number	Annual Allowances	Number	Annual Allowances	Increase Due to Plan Amendments	Number	Annual Allowances	Percentage Increase in Annual Allowances	Average Annual Allowances
September 30, 2014	Teachers	245	$10,540	228	$8,792	$4,251	6,189	$269,690	2.3%	$44
	Police	240	$13,009	218	$8,382	$3,689	5,717	$275,815	3.1%	$48
	Fire	121	$6,969	89	$3,880	$1,391	2,026	$110,000	4.2%	$54
September 30, 2015	Teachers	197	$8,040	249	$17,224	$7,071	6,137	$267,577	-0.8%	$44
	Police	312	$19,957	168	$9,132	$4,269	5,861	$290,909	5.5%	$50
	Fire	70	$3,988	103	$5,370	$2,006	1,993	$110,624	0.6%	$56
September 30, 2016	Teachers	446	$15,992	400	$18,508	$5,143	6,183	$270,204	1.0%	$44
	Police	465	$25,416	216	$9,739	-$1,317	6,110	$305,269	4.9%	$50
	Fire	83	$4,887	68	$3,260	-$16	2,008	$112,235	1.5%	$56
September 30, 2017	Teachers	107	$3,937	229	$8,829	$5,495	6,061	$270,807	0.2%	$45
	Police	261	$14,438	214	$9,061	$5,772	6,157	$316,418	3.7%	$51
	Fire	84	$4,919	58	$2,727	$2,233	2,034	$116,660	3.9%	$57
September 30, 2018	Teachers	226	$8,601	281	$9,897	$4,195	6,006	$273,706	1.1%	$46
	Police	300	$17,322	228	$9,611	$5,322	6,229	$329,451	4.1%	$53
	Fire	81	$4,649	78	$3,786	$2,310	2,037	$119,833	2.7%	$59

Schedule H – Analysis of Financial Experience

Gains & Losses in Actuarial Accrued Liabilities
Resulting from Difference Between
Assumed Experience & Actual Experience
($ Millions)

Type of Activity	Teachers	Police	Fire	Police and Fire	Total
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	($1.5)	$10.4	$5.0	$15.4	$13.9
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	$0.0	$2.7	$0.5	$3.2	$3.2
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	($0.6)	$1.3	$0.5	$1.8	$1.2
Withdrawal from Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	$6.5	$11.7	$0.2	$11.9	$18.4
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	($16.8)	$59.7	($35.8)	$23.9	$7.1
New Members. Additional unfunded actuarial accrued liability will produce a loss.	($31.6)	($13.8)	($8.9)	($22.7)	($54.3)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	$18.3	$47.7	$22.8	$70.5	$88.8
Death after Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	$0.0	($1.1)	$1.2	$0.1	$0.1
COLA/CPI. If inflation is different than expected, gains or losses can occur.	$7.6	$9.4	$1.9	$11.3	$18.9
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	($1.4)	($3.4)	($1.7)	($5.1)	($6.5)
Gain or (Loss) During Year From Financial Experience	($19.5)	$124.6	($14.3)	$110.3	$90.8
Non-Recurring Items. Adjustments for plan amendments, assumption changes, method changes or audit changes.	$0.0	$0.0	$0.0	$0.0	$0.0
Composite Gain or (Loss) During Year	($19.5)	$124.6	($14.3)	$110.3	$90.8

Funding Policy

Approved by the Board of Trustees

Adopted: November 15, 2012
Revised: June 22, 2017

The purpose of the funding policy is to state the overall funding goals for the District of Columbia Retirement Board, the benchmarks that will be used to measure progress in achieving those goals, and the methods and assumptions that will be employed to develop the benchmarks.

I. Funding Goals

The objective in requiring employer and member contributions to the Plan is to accumulate sufficient assets during a member's employment to fully finance the benefits the member receives throughout retirement. In meeting this objective, the Plan will strive to meet the following funding goals:

- To maintain an increasing or stable ratio of Plan assets to accrued liabilities and reach a 100 percent minimum funded ratio;
- To maintain adequate asset levels to finance the benefits promised to members;
- To develop a pattern of stable or declining contribution rates when expressed as a percentage of member payroll as measured by valuations prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board, with a minimum employer contribution equal to the normal cost determined under the Entry Age Normal funding method;
- To provide intergenerational equity for taxpayers with respect to Plan costs; and
- To fund benefit improvements through increases in contribution rates in accordance with statute.

II. Benchmarks

To track progress in achieving the previously outlined funding goals, the following benchmarks will be measured annually as of the actuarial valuation date (with due recognition that a single year's results may not be indicative of long-term trends):

- **Funded ratio** – The funded ratio, defined as the actuarial value of Plan assets divided by the Plan's actuarial accrued liability, should be increasing over time, before adjustments for changes in benefits, actuarial methods, and/or actuarial assumptions, with a target of at least 100 percent.

- **Contribution rate history** – Employer and member contribution rates should be relatively stable or declining from year to year when expressed as a percent of active member payroll.
- **Unfunded Actuarial Accrued Liability (UAAL) amortization period** – The amortization period for the Plan's expected 2017 UAAL will be a closed 15-year period. All subsequent changes in the UAAL will be amortized over 20 year closed periods. Each valuation will produce an amortization base which will take 20 years to fully amortize. The amortization of the UAAL bases will be developed using the level dollar methodology.

III. Methods and Assumptions

The actuarial funding method used to develop the benchmarks is entry age normal. The method used to develop the actuarial value of assets will recognize the underlying market value of the assets by spreading each year's unanticipated investment income (gains and losses) over a five-year smoothing period (1/5th per year), as adopted by the Board.

The actuarial assumptions used will be those last adopted by the Board based upon the advice and recommendation of the Plan's actuary. The actuary shall conduct an investigation into the Plan's experience at least every two years, and utilize the results of the investigation to form the basis for those recommendations.

The Board will have an audit of the Plan's actuarial valuation results conducted by an independent actuary at least every five years. The purpose of such a review is to provide a critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.

IV. Funding Policy Review

The funding policy components will be reviewed and amended as necessary following each experience investigation conducted by the Board.

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions

Actuarial Standard of Practice No. 51

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions

STANDARD OF PRACTICE

TRANSMITTAL MEMORANDUM

September 2017

TO: Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in the Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions

FROM: Actuarial Standards Board (ASB)

SUBJ: Actuarial Standard of Practice (ASOP) No. 51

Background

This document is the final version of Actuarial Standard of Practice No. 51, *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*.

The Pension Committee has been reviewing all of the pension-related standards and has developed this standard to provide guidance regarding the assessment and disclosure of pension risk as part of the larger review project. Section 3.16 of ASOP No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*, revised December 2013, provides guidance to an actuary whose assignment includes an analysis of the potential range of future pension obligations, periodic costs, actuarially determined contributions, or funded status. Section 4.1(r) of ASOP No. 4 requires disclosure that future pension measurements may differ significantly from the current measurement. This section also requires the actuary to provide results of the analysis of the potential range of future measurements if the scope of the actuary's assignment included such analysis, or a statement indicating that because of the limited scope of the assignment, such an analysis was not performed.

Section 3.4.1 of ASOP No. 41, *Actuarial Communications*, indicates that "the actuary should consider what cautions regarding uncertainty or risk in any results should be included in the actuarial report." Section 3.3.2 of ASOP No. 4 says, "In conjunction with the related guidance in ASOP No. 41, the actuary should consider the uncertainty or risk inherent in the measurement assumptions and methods and how the actuary's measurement treats such uncertainty or risk."

The Pension Committee believes that the additional guidance in this new standard expands on section 3.4.1 of ASOP No. 41 and sections 3.3.2, 3.16, 4.1(r) of ASOP No. 4. Additionally, the Pension Committee believes that the additional disclosures required by this standard will help the intended users of the actuarial findings gain a better understanding of risks inherent in the measurements of pension obligations and actuarially determined pension plan contributions.

First Exposure Draft

In December 2014, the ASB approved a first exposure draft with a comment deadline of May 29, 2015. Fourteen comment letters were received and considered in making changes that were reflected in the second exposure draft.

In July 2014, the ASB issued a Request for Comments on ASOPs and Public Pension Plan Funding and Accounting. After comments were received, the ASB appointed a Pension Task Force to review this and other input and to develop recommendations for consideration by the ASB. In July 2015, the ASB held a public hearing on public plan issues that had arisen during this process. In its announcement of the public hearing, the ASB specifically requested that comments related to the first exposure draft on the assessment and disclosure of risk be submitted in writing prior to the comment deadline. As such, the aforementioned fourteen comment letters constituted the comments considered by the Pension Committee.

Second Exposure Draft

The second exposure draft of this ASOP was issued in June 2016 with a comment deadline of October 31, 2016. The Pension Committee carefully considered the seventeen comment letters received. For a summary of issues contained in these comment letters, please see the appendix. Key changes made to the final standard in response to comment letters received on the second exposure draft include the following:

1. In section 2 of this standard, various definitions were copied from ASOP Nos. 4 and 41 for such terms that were used in this standard.
2. Contribution Risk was made a defined term and the definition was expanded.
3. The definition of a Funding Valuation in section 2.7 was clarified.
4. The guidance in section 3.2, Identification of Risks to be Assessed, was clarified to indicate that the actuary is not required "to evaluate the ability or willingness of the plan sponsor or other contributing entity to make contributions to the plan when due," and is not required "to assess the likelihood or consequences of potential future changes in applicable law."
5. Guidance was added in section 3.3, Assessment of Risk, to address a funding valuation

or pricing valuation that includes multiple measurements.

6. The language in section 3.6, Additional Assessment of Risk, was modified, replacing "beneficial" with "significantly beneficial."
7. The guidance in section 3.9, Reliance on a Separate Report, was clarified.
8. The disclosure requirements regarding the risks identified and the results of the risk assessment were clarified.
9. Section 4.1(f) was added, requiring the actuary to disclose "any limitations or constraints on the comprehensiveness of the risk assessment."

The Pension Committee thanks former committee chairperson Mita D. Drazilov and former committee members Fiona E. Liston, Mitchell I. Serota, Judy K. Stromback, and Virginia C. Wentz for their assistance with drafting this ASOP.

The ASB voted in September 2017 to adopt this standard.

The Actuarial Standards Board (ASB) sets standards for appropriate actuarial practice in the United States through the development and promulgation of Actuarial Standards of Practice (ASOPs). These ASOPs describe the procedures an actuary should follow when performing actuarial services and identify what the actuary should disclose when communicating the results of those services.

Section 1. Purpose, Scope, Cross References, and Effective Date

1.1 Purpose

This actuarial standard of practice (ASOP) provides guidance to actuaries when performing certain actuarial services with respect to measuring obligations under a defined benefit pension plan (hereafter referred to as "plan" or "pension plan") and calculating actuarially determined contributions for such plans, with regard to the assessment and disclosure of the risk that actual future measurements may differ significantly from expected future measurements. Examples of future measurements include pension obligations, actuarially determined contributions, and funded status.

This standard supplements the guidance in actuarial standards of practice No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*; ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*; ASOP No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*; and ASOP No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations,* addressing measuring pension obligations, calculating plan costs or contributions, selecting actuarial assumptions for measuring pension obligations, and selecting and using asset valuation methods for pension valuations.

1.2 Scope

This standard applies to actuaries when performing a funding valuation of a pension plan. This standard also applies to actuaries when performing a pricing valuation of a proposed pension plan change that would, in the actuary's professional judgment, significantly change the types or levels of risks of the pension plan. This standard also applies to actuaries when performing a risk assessment that is not part of a funding valuation or pricing valuation.

This standard does not apply to actuaries performing services in connection with applications for plan partitions or benefit suspensions under the Multiemployer Pension Relief Act of 2014. This standard also does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. In addition, this standard does not apply to actuaries performing funding valuations or pricing valuations for social insurance programs as described in section 1.2, Scope, of ASOP No. 32, *Social Insurance* (unless an ASOP on social insurance explicitly calls for application of this standard).

In some circumstances, the actuary's assignment might include advising the plan sponsor on the management or reduction of risk. This standard does not provide guidance on such risk management.

If the actuary departs from the guidance set forth in this standard in order to comply with applicable law (statutes, regulations, and other legally binding authority), or for any other reason the actuary deems appropriate, the actuary should refer to section 4.

1.3 Cross References

When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should consider the guidance in this standard to the extent it is applicable and appropriate.

1.4 Effective Date

This standard will be effective for any actuarial work product with a measurement date on or after November 1, 2018.

Section 2. Definitions

The terms below are defined for use in this actuarial standard of practice. Certain terms embedded within these definitions, and not used elsewhere in this ASOP, are defined in ASOP No. 4.

2.1 Actuarial Accrued Liability

The portion of the actuarial present value of projected benefits (and expenses, if applicable), as determined under a particular actuarial cost method that is not provided for by future normal costs. Under certain actuarial cost methods, the actuarial accrued liability is dependent upon the actuarial value of assets.

2.2 Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions with regard to future events, observations of market or other valuation data, or a combination of assumptions and observations.

2.3 Actuarially Determined Contribution

A potential payment to the plan as determined by the actuary using a contribution allocation procedure. It may or may not be the amount actually paid by the plan sponsor or other contributing entity.

2.4 Contribution Allocation Procedure

A procedure that uses an actuarial cost method, and may include an asset valuation method, an amortization method, and an output smoothing method, to determine the actuarially determined contribution for a plan. The procedure may produce a single value, such as normal cost plus an amortization payment of the unfunded actuarial accrued liability, or a range of values, such as the range from the ERISA minimum required contribution to the maximum tax-deductible amount.

2.5 Contribution Risk

The potential of actual future contributions deviating from expected future contributions, for example, that actual contributions are not made in accordance with the plan's funding policy, that withdrawal liability assessments or other anticipated payments to the plan are not made, or that material changes occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base.

2.6 Funded Status

Any comparison of a particular measure of plan assets to a particular measure of plan obligations.

2.7 Funding Valuation

A measurement of pension obligations or projection of cash flows performed by the actuary intended to be used by the principal to determine plan contributions or to evaluate the adequacy of specified contribution levels to support benefit provisions.

2.8 Intended User

Any person the actuary identifies as able to rely on the actuarial findings.

2.9 Measurement Date

The date as of which the values of the pension obligations and, if applicable, assets are determined.

2.10 Normal Cost

The portion of the actuarial present value of projected benefits (and expenses, if applicable) that is allocated to a period, typically twelve months, under the actuarial cost method. Under certain actuarial cost methods, the normal cost is dependent upon the actuarial value of assets.

2.11 Participant

An individual who satisfies the requirements for participation in the plan.

2.12 Prescribed Assumption or Method Set by Another Party

A specific assumption or method that is selected by another party, to the extent that law, regulation, or accounting standards gives the other party responsibility for selecting such an assumption or method. For this purpose, an assumption or method set by a governmental entity for a plan that such governmental entity or a political subdivision of that entity directly or indirectly sponsors is deemed to be a prescribed assumption or method set by another party.

2.13 Pricing Valuation

A measurement of pension obligations or projection of cash flows performed by the actuary to estimate the impact of proposed changes to plan benefit provisions on the plan contributions or to determine whether the proposed benefit provisions are supportable by specified contribution levels.

2.14 Principal

A client or employer of the actuary.

2.15 Risk

The potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience. For purposes of this ASOP, risk includes contribution risk.

2.16 Scenario Test

A process for assessing the impact of one possible event, or several simultaneously or sequentially occurring possible events, on a plan's financial condition.

2.17 Sensitivity Test

A process for assessing the impact of a change in an actuarial assumption on an actuarial measurement.

2.18 Stochastic Modeling

A process for generating numerous potential outcomes by allowing for random variations in one or more inputs over time for the purpose of assessing the distribution of those outcomes.

2.19 Stress Test

A process for assessing the impact of adverse changes in one or relatively few factors affecting a plan's financial condition.

Section 3. Analysis of Issues and Recommended Practices

3.1 Overview

Measuring pension obligations and calculating actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. However, an intended user of such measurement may not understand the effects of future experience differing from the assumptions used in the funding valuation or pricing valuation, or the potential volatility of future measurements resulting from such differences.

Guidance regarding methods and assumptions for measuring and determining pension costs, contributions, obligations, and funded status is provided in ASOP Nos. 4, 27, 35, and 44. In the event of a conflict between the guidance provided in this ASOP and the ASOPs listed above, this ASOP would govern.

3.2 Identification of Risks to be Assessed

The actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition. Examples of risks include the following:

1. investment risk (i.e., the potential that investment returns will be different than expected);
2. asset/liability mismatch risk (i.e., the potential that changes in asset values are not matched by changes in the value of liabilities);
3. interest rate risk (i.e., the potential that interest rates will be different than expected);
4. longevity and other demographic risks (i.e., the potential that mortality or other demographic experience will be different than expected); and
5. contribution risk.

This standard does not require the actuary to evaluate the ability or willingness of the plan sponsor or other contributing entity to make contributions to the plan when due. This standard does not require the actuary to assess the likelihood or consequences of potential future changes in applicable law. In addition, the actuary is not expected to provide investment advice.

3.3 Assessment of Risk

The actuary should assess the risks identified by the actuary in accordance with section 3.2, including the potential effects of the identified risks on the plan's future financial condition. The assessment should take into account circumstances specific to the plan (for example, funding policy, investment policy, funded status, or plan demographics). This standard does not require the assessment to be based on numerical calculations.

A funding valuation or pricing valuation as of a particular measurement date may include multiple measurements that may be prepared at the same time or at different times. The actuary may perform a single risk assessment for such funding valuation or pricing valuation if, in the actuary's professional judgment, that risk assessment is appropriate for all measurements in the funding valuation or pricing valuation.

3.4 Methods for Assessment of Risk

If the nature of the actuary's assessment of risk requires the selection of methods, the actuary should use professional judgment in selecting these methods. Methods may include, but are not limited to scenario tests, sensitivity tests, stress tests, and a comparison of an actuarial present value using a discount rate derived from minimal-risk investments to a corresponding actuarial present value from the funding valuation or pricing valuation.

The actuary should take into account the degree to which the methods and models reflect the nature, scale, and complexity of the plan. In using professional judgment, the actuary may take into account practical considerations such as usefulness, reliability, timeliness, and cost efficiency.

3.5 Assumptions for Assessment of Risk

If the nature of the actuary's assessment of risk requires the selection of assumptions, the actuary should use professional judgment in selecting these assumptions. One or more assumptions selected for the assessment of risk should differ from the assumptions used to determine expected future measurements and should result in one or more plausible outcomes.

The assumptions used for assessment of risk may be based on economic and demographic data and analyses. This information is available from a variety of sources, including representatives of the plan sponsor and administrator, investment advisors, demographers, economists, and other professionals. Views of experts or principals may be considered but the selection of assumptions for the assessment of risk should reflect the actuary's professional judgment.

3.6 Additional Assessment of Risk

If, in the actuary's professional judgment, a more detailed assessment would be significantly beneficial for the intended user to understand the risks identified by the actuary, the actuary should recommend to the intended user that such an assessment be performed. In making this judgment, the actuary should take into consideration factors including, but not limited to, the following:

1. findings of the risk assessment that the actuary has performed;
2. the size of the plan;
3. the size of the plan relative to the size of the plan sponsor;
4. the maturity of the plan;
5. the funded status of the plan;
6. the plan's asset allocation;
7. any relevant characteristics of the contribution allocation procedure or other method for determining contributions, such as a significantly backloaded contribution allocation procedure;
8. to the extent known by the actuary, indications that the plan sponsor or other contributing entity may not make current or future recommended contributions to the plan, whether based on recent history, new developments, external analyses, or other

known factors;

9. the length of time since the last such assessment; and
10. any significant changes in circumstances since the last such assessment.

3.7 Plan Maturity Measures

In addition to the requirements of section 3.3, the actuary should calculate and disclose plan maturity measures that, in the actuary's professional judgment, are significant to understanding the risks associated with the plan. Examples include the following:

1. the ratio of market value of assets to active participant payroll;
2. the ratio of retired life actuarial accrued liability to total actuarial accrued liability;
3. the ratio of a cash flow measure (such as benefit payments, or contributions less benefit payments) to market value of assets;
4. the ratio of benefit payments to contributions; and
5. the duration of the actuarial accrued liability.

The actuary also should provide commentary to help the intended user understand the significance of the disclosed plan maturity measures when assessing risk.

Since various plan maturity measures may convey similar information about risk, the actuary should use professional judgment in selecting the plan maturity measures, if any, to calculate and disclose.

3.8 Historical Information

If historical values of the plan's actuarial measurements are reasonably available, the actuary should identify and disclose relevant historical values of the plan's actuarial measurements that, in the actuary's professional judgment, are significant to understanding the risks identified in accordance with section 3.2. Examples of such actuarial measurements include the following, expressed as dollar amounts, percentages, or in some other form, as appropriate:

1. plan maturity measures;
2. funded status;
3. actuarially determined contribution;
4. actuarial gains and losses (investment and non-investment);
5. normal cost; and
6. plan settlement liability.

Since various plan historical actuarial measurements may convey similar information about risk, the actuary should use professional judgment in selecting the historical actuarial measurements and historical period to disclose.

If other historical information relevant to the actuarial measurements is reasonably available, the actuary should consider identifying and disclosing such historical information that the actuary believes is significant to understanding the risks associated with the plan. Examples include a comparison of actual contributions to actuarially determined contributions, plan participant count, and covered payroll.

The actuary also should provide commentary to help the intended user understand the significance of the disclosed historical actuarial measurements and the disclosed other historical information when assessing risk.

3.9 Reliance on a Separate Report

One or more risks identified by the actuary in accordance with section 3.2 may have been assessed by another party (for example, by another actuary or by an investment advisor). In these situations, the actuary may rely on the assessment of risk prepared by another party to partly or fully satisfy the requirements of this standard if, in the actuary's professional judgment, such assessment is consistent with applicable requirements of this standard.

Section 4. Communications and Disclosures

4.1 Disclosures

Any actuarial communication prepared to communicate the results of work subject to this standard should comply with the requirements of ASOP Nos. 4; 23, Data Quality; 27; 35; 41, Actuarial Communications; and 44. In addition, such communication should contain the following disclosures when relevant and material:

1. the risks identified in accordance with section 3.2 and the results of the risk assessment performed in accordance with section 3.3, including plan-specific commentary on the potential effects of the identified risks on the plan's future financial condition and the specific circumstances applicable to the plan that were taken into account;
2. if applicable, a description of each significant method or assumption upon which the actuary's risk assessment depends, in accordance with sections 3.4 and 3.5;
3. if applicable, a recommendation to the intended user that a more detailed assessment be performed, in accordance with section 3.6;
4. the values of any plan maturity measures selected in accordance with section 3.7, including related commentary to help the intended user understand the significance of the plan maturity measures when assessing risk. Examples of these plan maturity measures and related commentary include the following:
    1. if the actuary discloses the ratio of market value of assets to active participant payroll, the actuary could describe the significance of this ratio with respect to contribution volatility;
    2. if the actuary discloses the ratio of retired life actuarial accrued liability to total actuarial accrued liability, the actuary could describe the significance of this ratio with respect to the plan's asset/liability mismatch;
    3. if the actuary discloses the ratio of a cash flow measure to market value of assets,

the actuary could describe how negative cash flow may amplify investment risk;

4. if the actuary discloses the ratio of benefit payments to contributions, where contribution rates are fixed, the actuary could describe the dependence upon stable investment returns to continue to provide benefits; and
5. if the actuary discloses the duration of the actuarial accrued liability, the actuary could describe the sensitivity of the liability to changes in interest rates.

5. the historical values of any actuarial measurements and any other historical information relevant to the actuarial measurements selected in accordance with section 3.8, including related commentary to help the intended user understand the significance of this information when assessing risk; and
6. any limitations or constraints on the comprehensiveness of the risk assessment.

An actuarial communication can comply with some or all of the specific requirements of this section by making reference to a separate report that the actuary has relied on (in accordance with section 3.9) or to information contained in another actuarial communication. As discussed in ASOP No. 41, any referenced actuarial communication or separate report should be available to the intended users.

4.2 Disclosure about Prescribed Assumptions or Methods

The actuary's communication should state the source of any prescribed assumptions or methods used in the assessment of risk.

With respect to prescribed assumptions or methods set by another party, the actuary's communication should identify the following, if applicable:

1. any prescribed assumption or method set by another party that significantly conflicts with what, in the actuary's professional judgment, would be reasonable for the purpose of the measurement; or
2. any prescribed assumption or method set by another party that the actuary is unable to evaluate for reasonableness for the purpose of the measurement.

4.3 Additional Disclosures

The actuary should also include the following, as applicable, in an actuarial communication:

1. the disclosure in ASOP No. 41, section 4.3, if the actuary states reliance on other sources and thereby disclaims responsibility for any material assumption or method set by a party other than the actuary; and
2. the disclosure in ASOP No. 41, section 4.4, if, in the actuary's professional judgment, the actuary has otherwise deviated materially from the guidance of this ASOP.

4.4 Confidential Information

Nothing in this standard is intended to require the actuary to disclose confidential information.

Appendix – Comments on the Second Exposure Draft and Responses

The second exposure draft of the ASOP, *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*, was issued in June 2016 with a comment deadline of October 31, 2016. Seventeen comment letters were received, some of which were submitted on behalf of multiple commentators, such as by firms or committees. For purposes of this appendix, the term "commentator" may refer to more than one person associated with a particular comment letter. The Pension Committee carefully considered all comments received, and the ASB reviewed (and modified, where appropriate) the changes proposed by the Pension Committee.

Summarized below are the significant issues and questions contained in the comment letters and the responses to each.

The term "reviewers" in the appendix includes the Pension Committee and the ASB. Also, unless otherwise noted, the section numbers and titles used in the appendix refer to those in the second exposure draft.

Click here to view comments.

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

OCTOBER 1, 2019 THROUGH SEPTEMBER 30, 2020

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

DCRB's Budget Process

Planning and Estimation

- Managers plan and develop estimates
- Finance Review & Analysis
- Executive Director Review

→

Board Approval

- Operations Committee Review
- Approval by Board of Trustees

→

District Approval

- Budget submission to the District's Office of Budget & Planning (OBP)
- Council Hearing and Approval

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Annual Budget Process – Timing and Key Milestones

2018

September

FY 2020 annual budget process memo is issued to managers

October

Departments develop Budget Requests (BR)

Financial analysis and BR review

November

CFO reviews BR with Executive Director and discusses prioritization of spending

December

Agency budget presented to the Operations Committee

Budget is presented to Board of Trustees and approved

2019

January

Budget is reported to District's Office of Budget & Planning (OBP)

March

Budget Hearings and approval of budget

July

Budget is loaded into the District's Financial System by the OBP

October

FY 2020 Budget Year begins

3

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

DCRB Proposed Budget Summary

	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Percent
Personal Services				
Regular Pay - Full Time & Regular Pay	8,397	8,344	-53	-0.6%
Additional Gross Pay	309	310	1	0.3%
Fringe Benefits	2,189	2,195	6	0.3%
Overtime Pay	18	18	0	0.0%
Personal Services Subtotal	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services				
Supplies and Materials	125	108	-17	-13.6%
Telephone, etc.	85	40	-45	-52.9%
Rentals - Land and Structures	1,772	1,808	36	2.0%
Other Services and Charges	30,339	29,656	-683	-2.3%
Equipment & Equipment Rental	345	357	12	3.5%
Non-Personal Services Subtotal	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 43,579	$ 42,836	$ (743)	-1.9%

- The proposed budget for FY 2020 is $42.8 million, which represents a decrease of approximately $750 thousand (-1.9 percent) from the FY 2019 approved budget.
- This change includes routine staff compensation and operating costs, along with several increases and decreases that will be discussed in more detail during this presentation.

4

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Personal Services - Cost decreases of $46 thousand are associated with:

- Four positions eliminated from the Information Technology department, three of which were redirected to other areas, as part of our plan to redesign and enhance the IT Department.
- The salaries of three of these positions (formerly IT Manager level positions) were decreased, along with all associated benefits, as part of this change (-$298 thousand).
- These decreases were partially offset by normal staff compensation increases ($252 thousand).
- This change includes routine staff compensation and operating costs.

	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Change from FY 2019 Percent
Personal Services				
Regular Pay - Full Time & Regular Pay	8,397	8,344	-53	-0.6%
Additional Gross Pay	309	310	1	0.3%
Fringe Benefits	2,189	2,195	6	0.3%
Overtime Pay	18	18	0	0.0%
Personal Services Subtotal	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services				
Supplies and Materials	125	108	-17	-13.6%
Telephone, etc.	85	40	-45	-52.9%
Rentals - Land and Structures	1,772	1,808	36	2.0%
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Non-Personal Services Subtotal	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 43,579	$ 42,836	$ (743)	-1.9%

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Non-Personal Services – Cost decreases of about $1.9 million are associated with:

- A reduction of $45 thousand in *Telephone*, because of anticipated future savings as a result of the telephone system installed in September ($2,500/month versus $4,900/month for the previous system);
- A reduction of $620 thousand in *Other Services and Charges* for consulting services and Developers associated with the Data Management System (DMS);
- A decrease of $629 thousand in *Other Services and Charges* for server/network support and other professional services; and
- A decrease of $642 thousand in *Other Services and Charges* for several other I.T.-related projects, such as continued SharePoint development and Mobile projects.

	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Change from FY 2019 Percent
Personal Services				
Regular Pay - Full Time & Regular Pay	8,397	8,344	-53	-0.6%
Additional Gross Pay	309	310	1	0.3%
Fringe Benefits	2,189	2,195	6	0.3%
Overtime Pay	18	18	0	0.0%
Personal Services Subtotal	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services				
Supplies and Materials	125	108	-17	-13.6%
Telephone, etc.	85	40	-45	-52.9%
Rentals - Land and Structures	1,772	1,808	36	2.0%
Other Services and Charges	30,339	29,656	-683	-2.3%
Equipment & Equipment Rental	345	357	12	3.5%
Non-Personal Services Subtotal	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 43,579	$ 42,836	$ (743)	-1.9%

6

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Decreases were partially offset by the following increases ($1.1 million):

- An increase of $800 thousand in *Other Services and Charges* is for Investment-related fees. The Investment-related fees includes expenses for managers, custodian, and investment consultants;
- An increase of about $270 thousand in *Other Services and Charges* is for maintenance and upgrade expenses related to the System to Administer Retirement (STAR) system (amount paid for STAR maintenance in FY 2018 totaled $1.8 million); and
- A small increase of $36 thousand in *Rentals – Land and Structures* for rent-related expenses.

	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Change from FY 2019 Percent
Personal Services				
Regular Pay - Full Time & Regular Pay	8,397	8,344	-53	-0.6%
Additional Gross Pay	309	310	1	0.3%
Fringe Benefits	2,189	2,195	6	0.3%
Overtime Pay	18	18	0	0.0%
Personal Services Subtotal	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services				
Supplies and Materials	125	108	-17	-13.6%
Telephone, etc.	85	40	-45	-52.9%
Rentals - Land and Structures	1,772	1,808	36	2.0%
Other Services and Charges	30,339	29,656	-683	-2.3%
Equipment & Equipment Rental	345	357	12	3.5%
Non-Personal Services Subtotal	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 43,579	$ 42,836	$ (743)	-1.9%

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

The proposed budgets, by department, are as follows:

- **Trustees –** An increase of $73 thousand (12.9%). There are no FTEs in this department;
- **Executive** – An increase of $364 thousand (21.2%) and no change in FTEs;
- **Investments** - An increase of $556 thousand (3.5%) and a decrease of 1.0 FTEs (1 compliance-focused position redirected to Legal);
- **Benefits** – An increase of $390 thousand (10.2%) and an increase in 2.0 FTEs (2 redirected from I.T);
- **Legal and Compliance Office** – An increase of $345 thousand (21.6%) and an increase in 2.0 FTEs (1 redirected from I.T., 1 redirected from Investments);
- **Operations / Finance** – An increase of $250 thousand (6.1%) and no change in FTEs;
- **Information Technology** (I.T.) – The I.T. and Projects budgets are consolidated; the combined totals for IT and Projects there is a decrease of $2.7 million ($15.7 million to $12.9 million, or 17.3%) and a reduction of 3.0 FTEs.

Proposed FY 2020 Budget by Department	Dollars in Thousands				Full Time Equivalents		
Department	Actual FY 2018	Approved FY 2019	Proposed FY 2020	Change from FY 2019	FY 2019 Positions (FTE's)	FY 2020 Positions (FTE's)	Change from FY 2019
Trustees	456	567	640	73	0	0	0
Executive	1,545	1,713	2,077	364	9	9	0
Investments	14,053	16,099	16,655	556	6	5	-1
Benefits	2,841	3,809	4,199	390	31	33	2
Legal	1,325	1,594	1,939	345	4	6	2
Ops / Finance	3,578	4,086	4,336	250	11	11	0
Info Tech	5,591	8,398	12,990	4,592	13	11	-2
Projects*	1,044	7,314	0	-7,314	1	0	-1
Total	**$ 30,433**	**$ 43,579**	**$ 42,836**	**-743**	**75**	**75**	

*The Projects and the IT budgets are consolidated in the Information Technology (Info Tech) department in the FY 2020 Proposed Budget. As a result of this change, the Info Tech budget shows an increase of $4.6 million. However, when one considers the combined totals for Info Tech and Projects, there is a decrease of $2.7 million, from $15,712 to $12,990 in the Proposed FY 2020 budget, as compared to, the Approved FY 2019 budget.

Note: Any unexpended budget remains in the Fund.

8

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

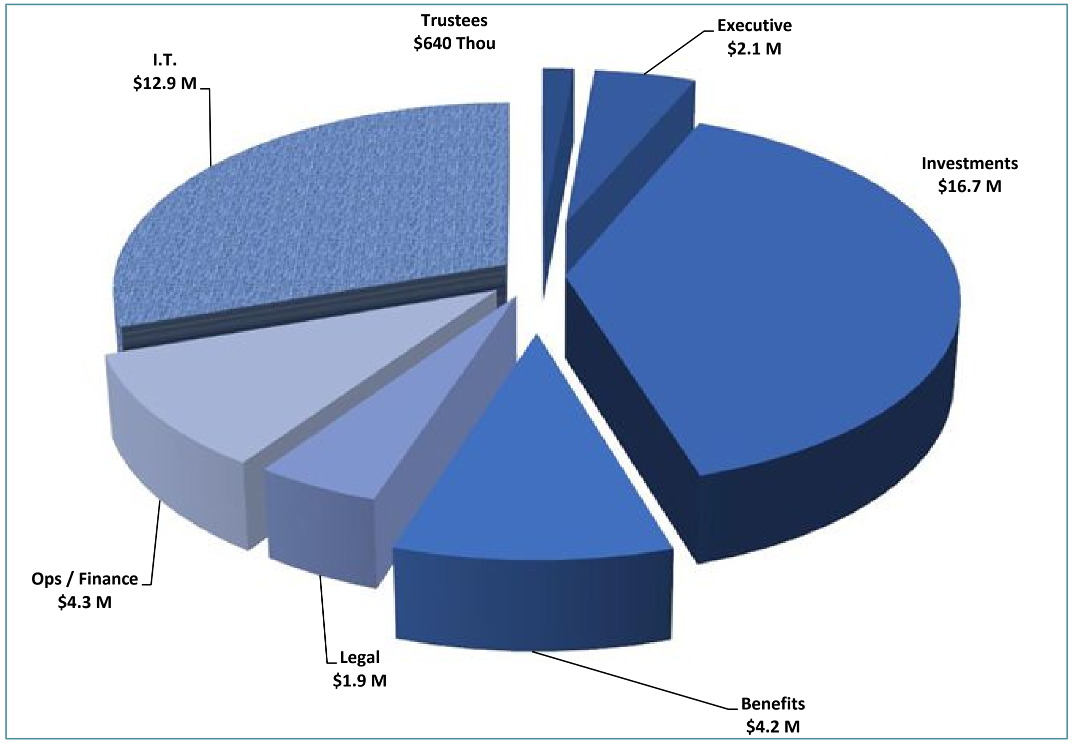
FY 2017 – FY 2018 Actuals, as Compared to Budget, and FY 2019 – 2020 Budget

	FY 2017		FY 2018		FY 2019	FY 2020	Change from FY 2019	
	Budget	Actual	Budget	Actual	Budget	Budget	Amount	Percent
Personal Services								
Regular Pay - Full Time & Regular Pay	7,020	6,259	8,038	6,219	8,397	8,344	(53)	-0.6%
Additional Gross Pay	273	250	299	195	309	310	1	0.3%
Fringe Benefits	1,843	1,613	2,108	1,833	2,189	2,195	6	0.3%
Overtime Pay	32	4	33	5	18	18	-	0.0%
Personal Services Subtotal	9,168	8,126	10,478	8,252	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services								
Supplies and Materials	117	104	137	93	125	108	(17)	-13.6%
Telephone, etc.	75	107	85	96	85	40	(45)	-52.9%
Rentals - Land and Structures & Security Svcs.	1,679	1,800	1,771	1,824	1,772	1,808	36	2.0%
Other Services and Charges & Contracts	27,730	23,352	28,727	19,970	30,339	29,656	(683)	-2.3%
Equipment & Equipment Rental	328	261	445	199	345	357	12	3.5%
Non-Personal Services Subtotal	29,928	25,624	31,165	22,182	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	39,096	33,750	41,643	30,434	$ 43,579	$ 42,836	$ (743)	-1.9%

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

The proposed budgets, by department, are as follows:

- **Trustees –** An increase of $73 thousand, to $640 thousand;
- **Executive** – An increase of $364 thousand, to $2.1 million;
- **Investments** - An increase of $556 thousand, to $16.7 million;
- **Benefits** – An increase of $390 thousand, to $4.2 million;
- **Legal and Compliance Office** – An increase of $345 thousand, to $1.9 million;
- **Operations / Finance** – An increase of $250 thousand, to $4.3 million; and
- **Information Technology** (I.T.) – The I.T. and Projects budgets are consolidated; the combined totals for IT and Projects there is a decrease of $2.7 million, from $15.7 million to $12.9 million.



DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Investments Program

As of October 1, 2018, the Fund held assets totaling $8.2 billion; these assets are invested in both domestic and international markets.

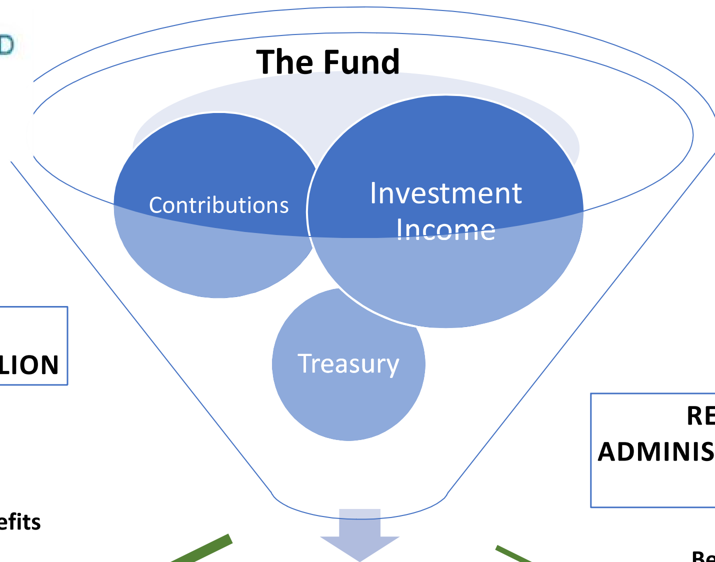
- There is an increase of $800 thousand for Investment-related fees, which are directly related to the projected growth in assets under management; the Investment-related fees includes expenses for managers, custodian, and investment consultants.
- Investment administration costs are expected to decline in FY2020 due to the elimination of professional services that are no longer needed. Investment administration includes staff compensation and other expenses, such as the Advent Tamale System and Due Diligence travel costs.
- The corresponding increase in the Consulting line item is related to the expected contractual increases for a new contract for Investment Consulting.
- The Custodial relationship cost is increasing as the portfolio management needs are growing.

Investment Program Costs

	Actual FY 2018	Approved FY 2019	Proposed FY 2020	$ Change from FY 2019	% Change from FY 2019
Investment Manager Fee*	$12,138,900	$13,400,000	$13,750,000	$350,000	2.6%
Investment Administration	$976,398	$1,395,322	$1,149,741	-$245,581	-17.6%
Investment Consulting	$658,750	$710,000	$1,100,000	$390,000	54.9%
Investment Custodian	$278,667	$595,000	$655,000	$60,000	10.1%
Total Costs	$14,052,715	$16,100,322	$16,654,741	$554,419	3.4%

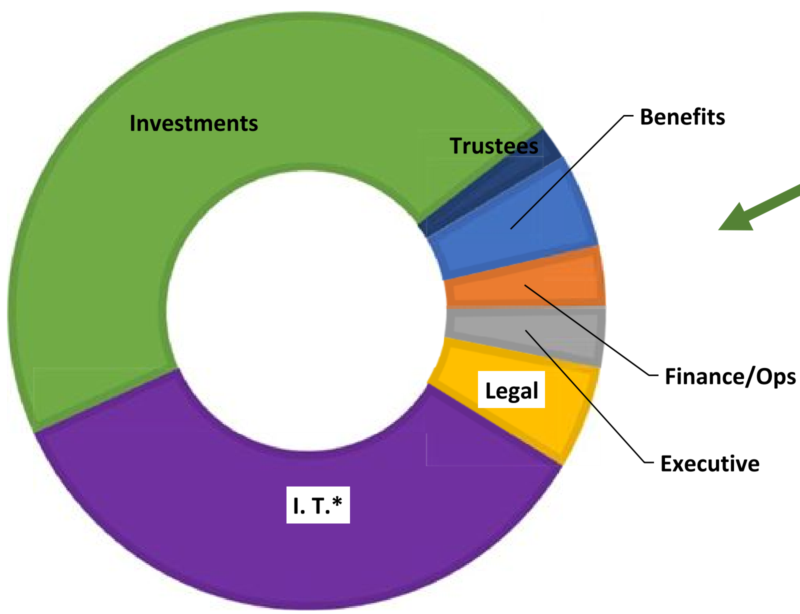
*Table includes fees paid to traditional investment managers only. Traditional investment managers are those that invest primarily in public equity and fixed income securities. Other fees, such as performance-based fees, are netted against investment income. As a result, those fee expenses are not included in this table.

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL



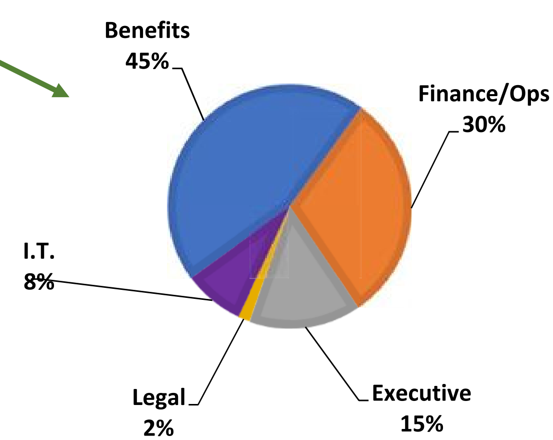
How We Pay Our Expenses

EXPENSES FOR ADMINISTERING THE DISTRICT PENSION PROGRAM - $38.3 MILLION



*Includes $1.4 million for STAR Costs Paid to Treasury

REIMBURSABLE THIRD PARTY ADMINISTRATOR EXPENSE ALLOCATION OF $4.5 MILLION



12

DISTRICT OF COLUMBIA RETIREMENT BOARD
FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

Treasury – Office of D.C. Pensions (ODCP)
Funding Estimates – FY 2020

- The proposed budget for FY 2020 of $42.8 million will represent DCRB's total spending authority, including all costs incurred while administering the pension benefits for all members (funded by the District and federal governments).

- Any reimbursement of administrative expenses from the U.S. Treasury, which DCRB gets in the form of revenue, lowers the amount of revenue required from the Fund to reach the total spending authority of $42.8 million.

- The amount projected to be reimbursed by Treasury to DCRB for Third Party Administrator Expenses totals $4.5 million

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

OCTOBER 1, 2019 THROUGH SEPTEMBER 30, 2020

DISTRICT OF COLUMBIA RETIREMENT BOARD

FISCAL YEAR 2020 ANNUAL BUDGET PROPOSAL

OCTOBER 1, 2019 THROUGH SEPTEMBER 30, 2020

TABLE OF CONTENTS

A Message from the Chief Financial Officer to the Trustees of the District of Columbia Retirement Board

I am pleased to submit the DCRB Proposed Operating Budget for fiscal year (FY) 2020 for your review and approval. With this new goal-oriented budget format, we are striving to create a culture of transparency and candid communication that sets the stage for developing realistic goals and fostering open dialogue between the Trustees and Executive Leadership.

We developed the proposed budget based on available knowledge and a series of assumptions made a number of months before the start of FY 2020. It includes specific details that strike the right balance between our Agency's imperatives for efficiency and growth, as well as good stewardship at all levels in the organization. Further, the proposed budget underscores the necessary financial resources needed to help us achieve our strategic priorities and initiatives, and better serve our members. With fiscal prudence and working collaboratively with our stakeholders, DCRB's goal-oriented budget process will support the realization of the Agency's strategic objectives and clear decision-making authority.

Under our new Executive Director, we continue to be committed to a fiscally responsible budgeting approach. Our process examines each line item in the proposed operating budget and scrutinizes every expense, both large and small. It is important that you are aware of these responsible and conservative spending practices.

While containing costs as much as possible, the increase in the proposed budget allows us to continue to offer exemplary services to our members, and financial stability to the Fund. DCRB is currently undergoing a new five-year strategic planning process, which began in FY 2018. When this new plan is completed early next year, the FY 2020 Proposed Budget will provide the resources to develop and implement an IT strategic plan that addresses automated access to information required to efficiently administer the Plans, as well as create a world class organization.

In closing, I wish to express my gratitude to the Executive Director, the Executive Leadership, managers, and other DCRB staff for their tireless efforts in preparing this budget. The budget process is a collaborative effort that culminates in an effective financial-management guide for FY 2020. I welcome the opportunity to address any questions and concerns that you may have regarding this document.

Respectfully submitted,

Anthony A. Shelborne

Introduction and Overview

DCRB was created by Congress in 1979 under the District of Columbia Retirement Reform Act as an independent agency of the District of Columbia government. The Board has exclusive authority and discretion to manage the assets of the District of Columbia Teachers' Retirement Fund and the District of Columbia Police Officers and Fire Fighters' Retirement Fund (collectively referred to as the "Fund"). Our mission also includes providing a range of retirement administration services for members of the District of Columbia Teachers' Retirement Plan (the Teachers' Plan) and the District of Columbia Police Officers and Firefighters' Retirement Plan (the Police Officers and Firefighters' Plan) (collectively referred to as the "Plans") throughout their lives and the lives of their survivors.

DCRB's Board of Trustees (Board) has 12 voting members, consisting of six (6) trustees who are elected by the active and retired participant groups, three (3) who are appointed by the Mayor, and three (3) who are appointed by the DC Council. In addition, the District's Chief Financial Officer (or his designee) serves on the Board as a non-voting, ex-officio member.

DCRB invests and manages the Fund, which is held in trust, for the exclusive benefit of all Plan members and their eligible survivors and beneficiaries. The assets of the Fund, which are commingled for investment purposes, can only be used to pay benefits to Plan members and associated administrative expenses. Board members are fiduciaries, who are required to discharge their responsibilities solely in the interest of Plan members and beneficiaries. The District Government, as the employer, is the Plan Sponsor and is responsible for the design of the Plans and for paying the required employer contributions to the Fund. DCRB, as Plan Administrator, is responsible for investing the assets of the Fund and for providing a range of pension administration services to our members. DCRB also serves as the third-party benefits administrator for District police officers, firefighters and teachers, who are covered under retirement plans that were frozen prior to July 1, 1997 and are funded by the U.S. Department of the Treasury (Treasury).

Since its inception, the Board has operated under a committee system which provides a two-tiered process for fiduciary review and analysis. This includes review and analysis of the Annual Budget Proposal. In this manner, the Board, consistent with its fiduciary duties, reviews the budget, asks questions, and ultimately approves the budget

Strategic Goals and Strategies

For more than four decades, DCRB has built retirement security for those who serve the District of Columbia as police officers, firefighters, and teachers. As stewards of the Board, we are committed to retirement security and wellness to ensure that their benefits and earned retirements are protected. The 2012-2017 Strategic Plan was approved by the DCRB Board of Trustees in 2012.

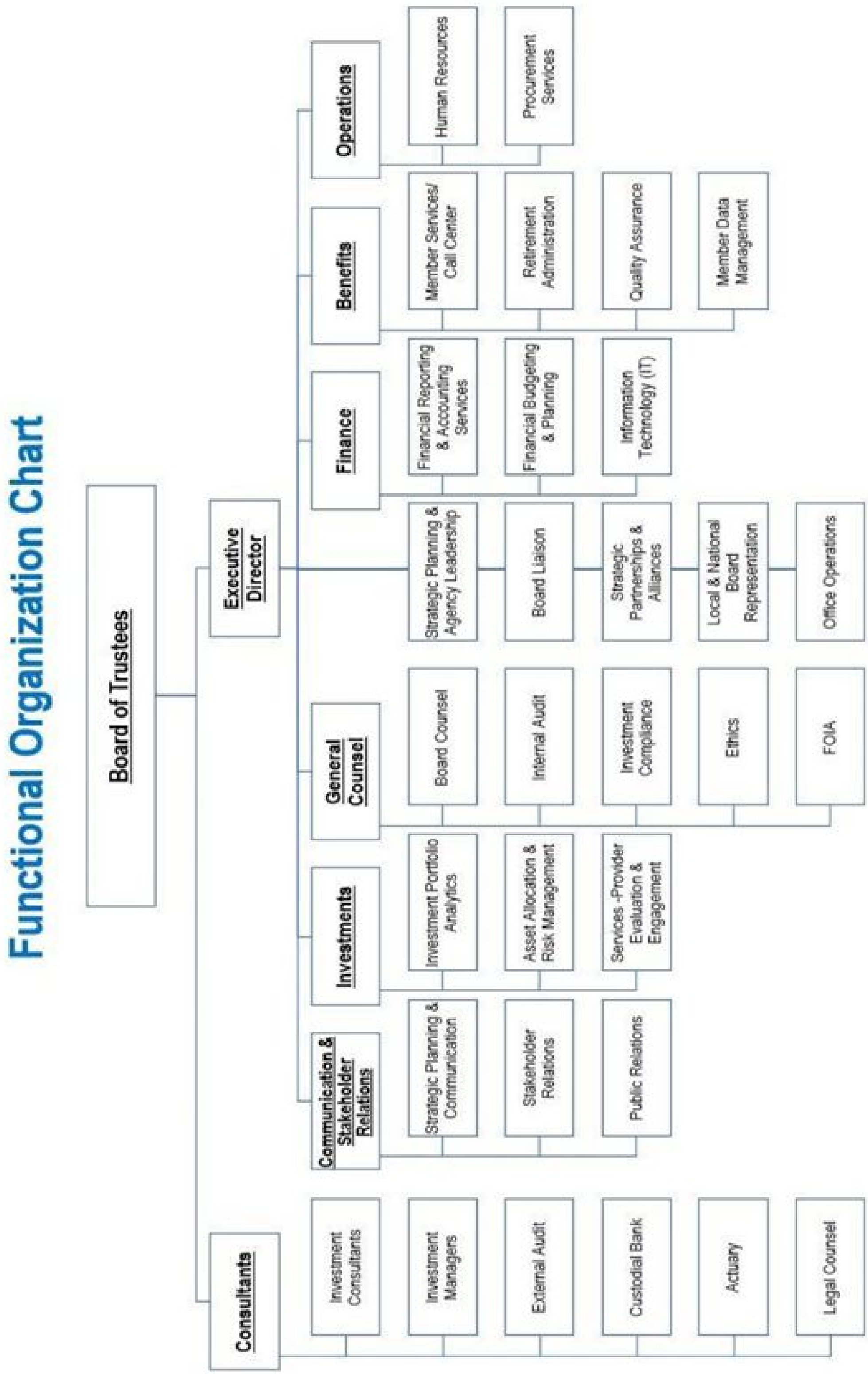
The FY 2020 Total Budget is focused on core business needs critical to the District of Columbia Retirement Board's (DCRB) long-term strategy and on furthering our mission of delivering retirement benefits to members and their beneficiaries. The initiatives comprised in the budget will be implemented to achieve efficiencies, identify and implement cost- saving measures, manage risks, and deliver quality customer service.

The proposed budget provides the annual financial plan for FY 2020 and supports the DCRB 2012-17 Strategic Plan, as well as planned updates to the 2019-2023 Strategic Plan, which are currently taking place. DCRB reviews its goals and strategies every five years. In 2012, the Board identified its mission as follows: "To prudently invest the assets of the District of Columbia Police Officers and Fire Fighters' Retirement Fund and the District of Columbia Teachers' Retirement Fund and to provide Plan members with total retirement services." At that time, the Board articulated its goals for fulfilling its mission as:

- To safeguard the integrity of the Fund.
- To prudently invest Fund assets to provide long-term sustainable and risk-adjusted returns.
- To expand and improve benefits administration, assuring accurate and timely benefits are paid to the members.
- Refine DCRB's organizational structure to meet changing responsibilities and needs.
- To foster member and stakeholder trust through enhanced communications and collaborative outreach.

In the fall of 2018, DCRB began an update to its Strategic Plan, covering the years 2019 through 2023. During this process, the Board will review DCRB's mission, vision and values; identify goals that will align with its mission; and assure that its organizational structure supports successfully meeting its goals.

Fiscal Year 2020 Annual Budget Proposal



FY 2020 Budget Overview

The proposed budget for FY 2020 is $42.8 million, which represents a decrease of approximately $750 thousand (-1.9 percent) from the FY 2019 approved budget. This change includes routine staff compensation and operating costs. The budget includes no net change in authorized positions, which remains at 75 FTEs; no new positions are proposed as the Agency will continue to address resource needs through the redirection of existing positions.

The FY 2020 Proposed Budget highlights include:

An increase of $800 thousand increase (5.2 percent), from $14.7 million to $15.5 million, for investment-related costs. These costs, which make up approximately 35 percent of the total proposed budget, include manager fees (public funds) that are paid directly, as well as custodian and investment consulting costs. Our Investments program is discussed more in the Investments Program and Related Information section.

The budget increase is offset by significant decreases in the Information Technology budget. We made reductions as we pivot in a new direction in those areas. We feel the changes, which began in FY 2018 and in FY 2019, will position the IT department to focus more on service delivery that will help members today. These changes will be discussed more in the Total DCRB Proposed Budget Summary section.

It is important to note that Treasury's Office of DC Pensions (ODCP) reimburses DCRB for the third-party benefits administrator services for the frozen federally-funded plans. The amount received from Treasury is anticipated to be $3.3 million for FY 2019 and $3.6 million for FY 2020.

The focus of the FY 2019-20 DCRB Total Budget continues to demonstrate the mission of DCRB and the priorities of the Agency and our stakeholders in a transparent manner, while delivering a value-based, managed-risk perspective.

Finally, as in prior years, any unspent budget amounts remain in the Trust fund.

Fiscal Year 2020 Annual Budget Proposal

Annual Budget Process

DCRB's Budget Process

Planning and Estimation

- Managers plan and develop estimates
- Finance Review & Analysis
- Executive Director Review

→

Board Approval

- Operations Committee Review
- Approval by Board of Trustees

→

District Approval

- Budget submission to the District's Office of Budget & Planning (OBP)
- Council Hearing and Approval

The purpose of the annual budget process is to review the Agency's existing resources as well as requests for new resources required to meet DCRB's mission, strategic plan, and priorities. Prior to building the budget, the Agency managers, and the CFO receive a directive from the Executive Director concerning priorities for the Agency and the departments. The strategic goals of the Agency, its mission, and the priorities we share with our stakeholders are incorporated into the budget process.

The DCRB budget is a financial plan for the spending and allocation of resources needed to meet the organization's mission, vision, and values necessary to build and maintain retirement security for members that serve the District of Columbia. The budget process is an ongoing budget planning activity that considers the priorities of the Agency as well as DCRB's values and mission as the basis for determining how and where to use resources.

The process begins in September of each year with the submission of the Finance Department's annual budget memorandum to Agency department directors and managers. The memo provides the instructions, budget direction, expectations, and objectives for the budget process.

During the annual budget process, the departmental budgets are reviewed to determine core operational budget needs to maintain current service levels. Also, departments requiring additional resources for new services, initiatives, and projects must submit a formal budget request, using the New Initiatives Budget document.

Annual Budget Process (continued)

The Proposed budget is presented to the Operations Committee in advance of its submission to the Board of Trustees in December. After a thorough review, the budget is approved by the Board of Trustees, then is submitted to the District of Columbia's Office of Budget & Planning (OBP), where it is combined with all other District Government agencies and becomes a part of the Mayor's budget submission to the District Council, the legislative branch of the District. The District Council holds budget hearings in the spring to discuss and consider proposed budgets.

DCRB's budget, as approved by the District Council, is included in the budget bill, then signed by the Mayor and submitted to the US Congress to become effective October 1st of the new fiscal year.

Annual Budget Process – Timing and Key Milestones

2018

September

FY 2020 annual budget process memo is issued to managers

October

Departments develop Budget Requests (BR)

Financial analysis and BR review

November

CFO reviews BR with Executive Director and discusses prioritization of spending

December

Agency budget presented to the Operations Committee

Budget is presented to Board of Trustees and approved

2019

January

Budget is reported to District's Office of Budget & Planning (OBP)

March

Budget Hearings and approval of budget

July

Budget is loaded into the District's Financial System by the OBP

October

FY 2020 Budget Year begins

Fiscal Year 2020 Annual Budget Proposal

FY 2020 Proposed Budget, A Closer Look

Total DCRB Proposed Budget Summary, by Object Class

	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Percent
Personal Services				
Regular Pay - Full Time & Regular Pay	8,397	8,344	-53	-0.6%
Additional Gross Pay	309	310	1	0.3%
Fringe Benefits	2,189	2,195	6	0.3%
Overtime Pay	18	18	0	0.0%
Personal Services Subtotal	$ 10,913	$ 10,867	$ (46)	-0.4%
Non-Personal Services				
Supplies and Materials	125	108	-17	-13.6%
Telephone, etc.	85	40	-45	-52.9%
Rentals - Land and Structures	1,772	1,808	36	2.0%
Other Services and Charges	30,339	29,656	-683	-2.3%
Equipment & Equipment Rental	345	357	12	3.5%
Non-Personal Services Subtotal	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 43,579	$ 42,836	$ (743)	-1.9%

The proposed budget for FY 2020 is $ 42.8 million, which represents a decrease of approximately $750 thousand (-1.9 percent) from the FY 2019 approved budget. This change includes routine staff compensation and operating costs, along with an increase of $800 thousand increase (5.2 percent), from $14.7 million to $15.5 million, for investment-related costs. These costs, which make up approximately 35 percent of the total proposed budget, include manager fees (public funds) that are paid directly, as well as custodian and investment consulting costs. There are no changes in authorized positions, which remain at 75 FTEs.

Personal Services - Cost decreases of $46 thousand are associated with:

- Four positions eliminated from the Information Technology department and redirected to other areas, as part of our plan to redesign and enhance the IT Department.

- The salaries of two of these positions (formerly IT Manager level positions) were decreased, along with all associated benefits, as part of this change (-$298 thousand).

These decreases were partially offset by normal staff compensation increases ($252 thousand).

FY 2020 Proposed Budget, A Closer Look (continued)

Non-Personal Services – Cost decreases of about $1.9 million are associated with:

- A reduction of $620 thousand in *Other Services and Charges* for professional services for a Project Management consultant, Developers associated with the Master Data Management (MDM) system Enterprise Data Quality (EDQ), and Service-Oriented Architect (SOA). As DCRB continues along the path of obtaining a Pension Information Management System (PIMS) in the future, the emphasis will shift from developing an MDM on-premise as the foundation for the PIMS, to finding a company that can deliver a cloud-based pension system.

- A decrease of $629 thousand in *Other Services and Charges* for server/network support and other professional services. As part of our shift in focus, we are decommissioning several servers related to recent projects. This includes Self-Service servers, and Project Server support and network administration consulting expenses. Some of these decisions resulted from the first phase of the IT Audit, which was finalized in FY 2018. This work, and the savings, will continue in FY 2019, with additional savings reflected in the FY 2020 budget.

- A decrease of $642 thousand in *Other Services and Charges* for several Information Technology-related projects (decreases include $590 thousand for SharePoint and Mobile projects [Board portal], and $50 thousand in IT Software Maintenance for the Data management project).

These decreases were partially offset by the following increases ($1.1 million):

- An increase of $800 thousand in *Other Services and Charges* is for Investment-related fees, which are directly related to the projected growth in assets under management. The Investment-related fees includes expenses for managers, custodian, and investment consultants. DCRB consistently monitors and negotiates fees to ensure that the fees we pay are reasonable and reflective of the services provided by investment service providers.

- An increase of about $270 thousand in *Other Services and Charges* is for maintenance and upgrade expenses related to the System to Administer Retirement (STAR) system. DCRB makes this payment to Treasury each fiscal year, as part of the cost-sharing agreement for: 1) annual maintenance expenses related to the STAR; 2) STAR system upgrade costs (which do not occur annually); 3) payroll services; and 4) postage expenses related to the benefits payments of our members. The payments to Treasury have averaged about $1.4 million annually, over the past three fiscal years.

- A small increase of $36 thousand in *Rentals – Land and Structures* for rent-related expenses. These expenses pertain to rent increases and potential increases in real estate taxes and operating expenses.

Fiscal Year 2020 Annual Budget Proposal

FY 2020 Proposed Budget, A Closer Look (continued)

As discussed, DCRB will reduce its Agency-wide spending by approximately $743 thousand (-1.9 percent). Each budget area is covered separately in more detail below, providing an analysis of the prior year and current cost.

Proposed FY2020 Budget by Department		Dollars in Thousands			Full Time Equivalents		
Department	Actual FY 2018	Approved FY 2019	Proposed FY 2020	Change from FY 2019	FY 2019 Positions (FTE's)	FY 2020 Positions (FTE's)	Change from FY 2019
Trustees	456	567	640	73	0	0	0
Executive	1,545	1,713	2,077	364	9	9	0
Investments	14,053	16,099	16,655	556	6	5	-1
Benefits	2,841	3,809	4,199	390	31	33	2
Legal	1,325	1,594	1,939	345	4	6	2
Ops / Finance	3,578	4,086	4,336	250	11	11	0
Info Tech	5,591	8,398	12,990	4,592	13	11	-2
Projects*	1,044	7,314	0	-7,314	1	0	-1
Total	**$ 30,433**	**$ 43,579**	**$ 42,836**	**-743**	**75**	**75**	

*The Projects and the IT budgets are consolidated in the Information Technology (Info Tech) department in the FY 2020 Proposed Budget As a result of this change, the Info Tech budget shows an increase of $4.6 million. However, when one considers the combined totals for Info Tech and Projects, there is a decrease of $2.7 million, from $15,712 to $12,990 in the Proposed FY 2020 budget, as compared to, the Approved FY 2019 budget.

The proposed budgets, by department, are as follows:

Trustees – Increase of $73 thousand (12.9 percent). This increase is because of an additional election in FY 2020, as compared to FY 2019.

Executive – Increase of $364 thousand (21.2 percent). We began updating our Strategic Plan in FY 2018; this work continues in FY 2019. This increase will help the department implement recommendations from the strategic plan the second phase of the Class and Compensation Study. This budget will also ensure that the Executive Department will continue to implement the Board's vision for the Agency.

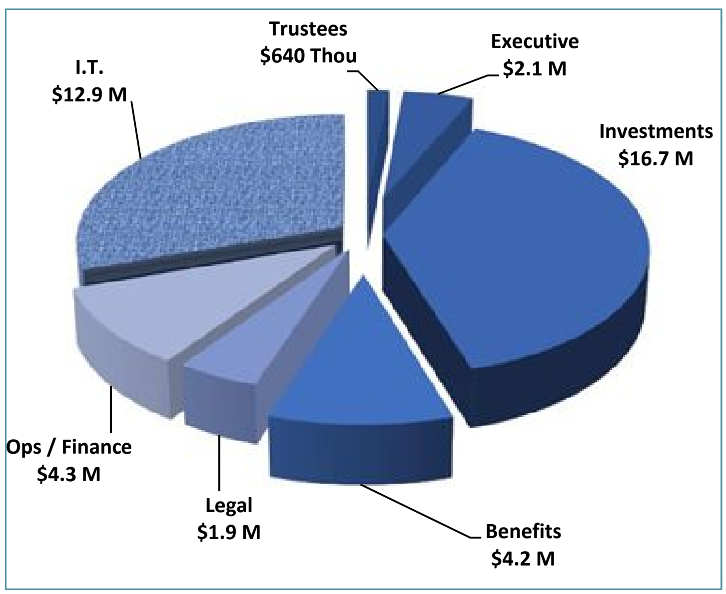
Investments - Increase of $556 thousand (3.5 percent). Because investment fees reflect the level of the assets in the Fund, we estimate the growth or reduction of the assets, and project changes in the investment fees accordingly. Applying this methodology, the Investment Department budget includes an increase of $800 thousand (5.2 percent), from $14.7 million to $15.5 million, for investment-related fees (manager fees [public funds] that are paid directly, custodian and investment consulting costs). Unless the market direction changes, we expect that investment-related fees will grow in FY 2020. There is a decrease of 1 FTE, as the position that focuses on compliance was redirected to the Legal Department.

Benefits – Increase of $390 thousand (10.2 percent). This budget increase of $390 thousand reflects the cost of salaries and fringe benefits for current and new FTEs. With the increase of 2 FTEs, redirected from the Information Technology department, the Benefits Department will be able to provide enhanced services, which this past year included issuing estimated Benefits Statements to all active members. Estimated Benefit Statements will be sent to all active police officers, firefighters and teachers annually. DCRB will continue to work collaboratively with our stakeholders to provide high quality service to Plan members.

Legal and Compliance Office – Increase of $345 thousand (21.6 percent). This budget increase of $345 thousand reflects the cost of salaries and fringe benefits for current and new FTEs. With the increase of 2 FTEs, one of which was redirected from Investments, and one of which was redirected from the Information Technology department, the Legal and Compliance Office will also manage risk and compliance related to Fund investments, as well as the internal auditing of DCRB operations and programs in concert with an external auditor engaged by the Board.

Operations – Increase of $250 thousand (6.1 percent). The decrease of $216 thousand is the result of nonrecurring contractual and consulting expenses in FY 2019. The Operations department will continue to provide operational and accounting support with no increase in FTEs.

Information Technology (IT) – The IT and Projects budgets are consolidated in the Information Technology department in the FY 2020 Proposed Budget. Because of this change, the IT budget shows an increase of $4.6 million. However, when one considers the combined totals for IT and Projects, there is a decrease of $2.7 million, from $15.7 million to $13.0 million in the Proposed FY 2020 budget, as compared to the Approved FY 2019 budget. There is a decrease of 3 FTEs in the combined areas. During FY 2019 and beyond, the IT Department has ongoing projects focused on: 1) updating our disaster recovery, 2) business continuity-of-operations plans, 3) and enhancing our on-premise local area network (LAN) room. IT will work to bring equipment upon which DCRB staff rely for their day-to-day work from the remote site, currently located in Ashburn, VA. Finally, as DCRB continues along the path of obtaining a Pension Information Management System (PIMS) in FY 2019, DCRB will engage a new consultant that specializes in pension funds who can help determine how to best continue the path of obtaining a PIMS. The work with this vendor, which will continue in FY 2020, will include determining whether we shift from developing an MDM system, on-premise as the foundation for the PIMS, or how to find the right company to help us use what we have developed to move forward and implement a solution. The future could entail finding a company that can deliver a cloud-based pension system.



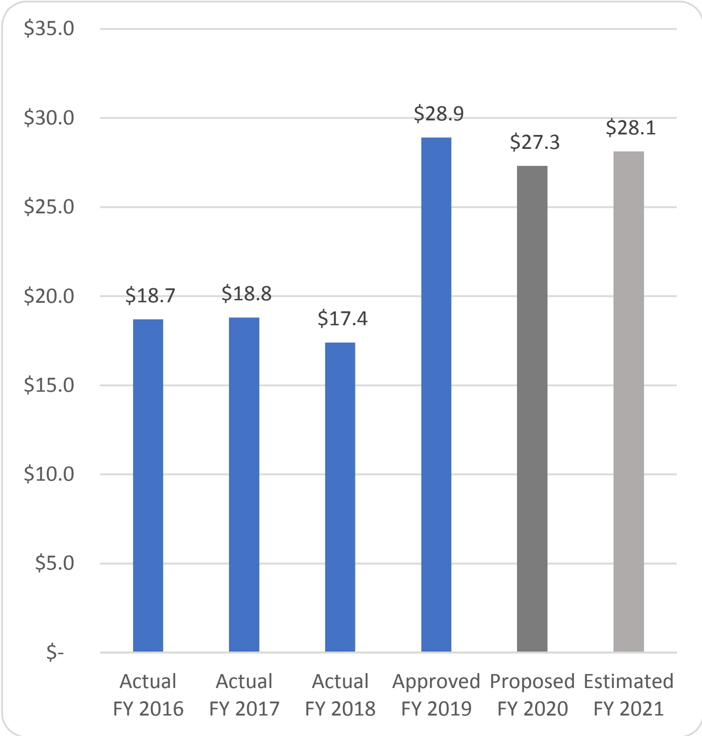
Projects – The original Projects budget was developed to include many large-scale projects, most of which had a technology aspect. The FY 2020 Proposed budget shifts all money associated with the Projects budget to the IT department, as explained above.

Fiscal Year 2020 Annual Budget Proposal

Operating Costs

FY 2020 Annual Financial Plan

The proposed budget provides the annual financial plan for FY 2020. DCRB is committed to maintaining efficient and effective administration that is accountable and transparent to its stakeholders. This document compiles the financial information to support the Agency's goals.



The $42.8 million budget consists of Operating Costs, including $10.9 million for Personal Services. The largest category is $29.7 million for Other Charges of which $16.5 million is for Professional Services fees for contractual services, and $15.5 million for Investment-related fees.

The $16.5 million in Professional Fees includes $5.8 million for IT and technology-focused projects, $0.5 million for Legal services, $0.2 million for temporary services in the Benefits department, $0.4 million for contractual and STAR upgrade in the Operations/Finance department, and $1 million in the Trustees and Executive departments.

The chart (above right) shows discretionary operating costs, not including Investment-related expenses.

Every dollar paid to our members and survivors comes from four sources:

(Source: DCRB Income over the past two fiscal years, as of September 30, 2017)

Fiscal Year 2020 Annual Budget Proposal

Operating Costs (continued)

Staffing and Salaries – FY 2017 and FY 2018

As of year-end fiscal 2018 (September 30, 2018), DCRB operated with 52 staffed positions, at a total salary of $5.8 million. Relative to year-end fiscal 2017, these figures represent a decrease of 8 filled positions.

Fiscal Year	2017	2018	Variance
Filled full-time equivalents (FTEs)	60	52	-8
Salaries*	$6.3 million	$6.2 million	-$100,000

*Variance is based on the totals as of Sept 30 of each fiscal year. Due to timing differences between terminations and position replacements, the variance is not indicative of total salaries for the 8 FTEs.

Staffing and Salaries – FY 2019

The Agency had 52 filled positions (full-time equivalents, or FTEs), of the 75 FTEs budgeted, on September 30, 2018. For fiscal year 2019, the agency anticipates filling 15 approximately vacancies, representing a combination of position replacements (backfills for vacated positions) and new agency vacancies. The projected total cost of these staffing changes is approximately $1.5 million, all of which is already included in the current FY 2019 budget, which totals $8.4 million, as shown in Table A (below).

	FY 2017 Actual	FY 2018 Actual	FY 2019 Budget	FY 2020 Budget	Change from FY 2019 Amount	Change from FY 2019 Percent
Personal Services						
Regular Pay - Full Time & Regular Pay	6,259	6,219	8,397	8,344	(53)	-0.6%
Additional Gross Pay	250	195	309	310	1	0.3%
Fringe Benefits	1,613	1,832	2,189	2,195	6	0.3%
Overtime Pay	4	5	18	18	-	0.0%
Personal Services Subtotal	$ 8,126	$ 8,251	$ 10,913	$ 10,867	(46)	-0.4%
Non-Personal Services						
Supplies and Materials	104	95	125	108	(17)	-13.6%
Telephone, etc.	107	96	85	40	(45)	-52.9%
Rentals - Land and Structures	1,800	1,824	1,772	1,808	36	2.0%
Other Services and Charges	23,352	19,970	30,339	29,656	(683)	-2.3%
Equipment & Equipment Rental	261	198	345	357	12	3.5%
Non-Personal Services Subtotal	$ 25,624	$ 22,183	$ 32,666	$ 31,969	$ (697)	-2.1%
Total	$ 33,750	$ 30,434	$ 43,579	$ 42,836	$ (743)	-1.9%

Table A. FY 2017- FY 2020 Budget and Actual Expenses

Operating Costs (continued)

Staffing and Salaries – FY 2020

Looking ahead to FY 2020, the agency anticipates linking its staffing growth to the results of the new strategic planning initiative. One of the critical outputs from this project will be a five-year plan for the agency, which includes projections for staff growth to meet DCRB's operational and strategic needs over the next five (5) years—including PIMS (pension-information modernization system).

Agency Turnover

Over the past two fiscal years (FY17 and FY18), DCRB's annual turnover rates were 5.1 percent and 15.9 percent, respectively:

Fiscal Year	Staff/Start	Staff/End	New hires	Separations	Turnover
2017	58	60	5	3	5.1%
2018	60	53	3	10	15.9%

Separations include retirements, resignations, and terminations. In FY2018, 10 staff members left the agency across the spectrum of the "Separation" subcategories.

Investments Program

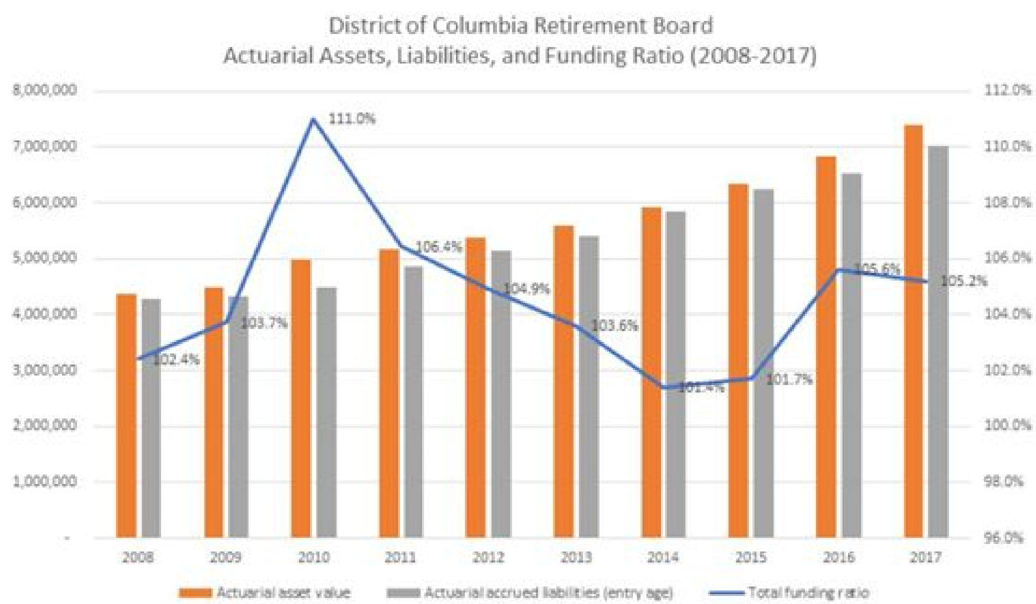
As of September 30, 2018, the Fund held assets totaling $8.2 billion. These assets are invested in both domestic and international markets.

As noted above, DCRB has exclusive investment authority and sole fiduciary responsibility for the management of Fund assets. With the guidance of the Board, the Investment Committee (a committee of the whole), and an investment consultant, DCRB's investment staff carries out the daily activities of the investment program. All Fund assets are invested in both active and passive investments by selected investment managers.

DCRB has generated sustainable long-term returns since the inception of the Fund in October 1982 by effectively managing investments to achieve the highest possible return at an acceptable level of risk. The DCRB portfolio is diversified into several asset classes to mitigate any weaknesses in one area by gains in another. The Board follows a strategic asset allocation policy that targets the percentage of funds invested in each asset class.

Funding Status

A key aspect of sustainability is the Plan's funding ratio, which is the ratio of assets to accrued liabilities is an important measure to monitor. The funding ratio is impacted by the change in the fair market value of the Fund's assets and the actuarial accrued liabilities. A ratio of 100% represents a fully funded status. The Fund ended FY 2017 with a funding ratio of 105.2%, indicating that there were sufficient assets to meet the pension obligations at that time.



Fiscal Year 2020 Annual Budget Proposal

Investments Program (continued)

Change in Investment Program Costs

Investment administration costs are expected to decline in FY2020 due to the elimination of professional services that are no longer needed. The corresponding increase in the Investment Consulting line item is related to the expected contractual increases for a new contract for Investment Consulting. The Custodial relationship cost is increasing as the portfolio management needs are growing.

Investment Program Costs

	Actual FY2018	Approved FY2019	Proposed FY2020	$ Change from FY2019	% Change from FY2019
Investment Manager Fee*	$12,138,900	$13,400,000	$13,750,000	$350,000	2.6%
Investment Administration	$976,398	$1,395,322	$1,149,741	-$245,581	-17.6%
Investment Consulting	$658,750	$710,000	$1,100,000	$390,000	54.9%
Investment Custodian	$278,667	$595,000	$655,000	$60,000	10.1%
Total Costs	$14,052,715	$16,100,322	$16,654,741	$554,419	3.4%

Investment Expense/Net Asset Value (in Basis Points)

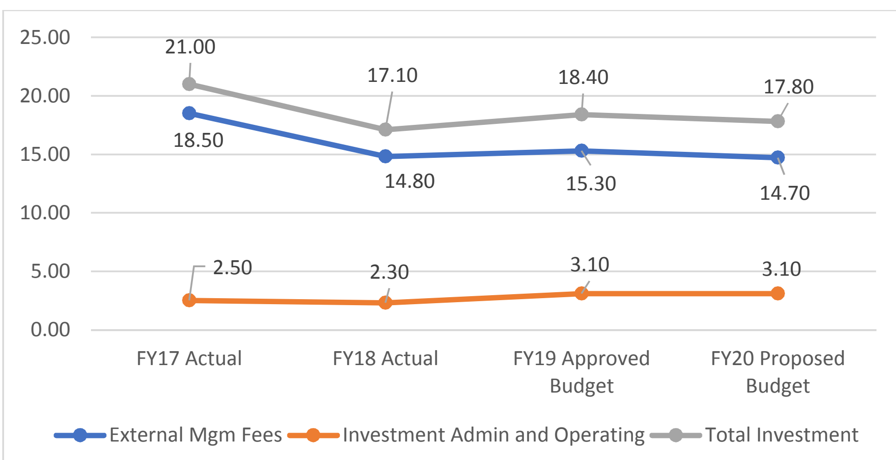


*Chart and table above include fees paid to traditional investment managers only. Traditional investment managers are those that invest primarily in public equity and fixed income securities. Other fees, such as performance-based fees, are netted against investment income. As a result, those fee expenses are not included.

Fiscal Year 2020 Annual Budget Proposal

Investments Program (continued)

Investment Management Fees

Investment Management Fees

	Actual FY 2018	Approved FY 2019	Proposed FY 2020	$ Change from FY 2019	% Change FY 2019
Investment Manager Fees*	$12,138,900	$13,400,000	$13,750,000	$350,000	2.6%

*Table above include fees paid to traditional investment managers only. Traditional investment managers are those that invest primarily in public equity and fixed income securities. Other fees, such as performance-based fees, are netted against investment income. As a result, those fee expenses are not included

Annualized excess investment returns relative to Actuarial Target Return

This measure evaluates investment performance relative to relevant targets. Over the longer term, this measure specifically targets the Agency's ability to achieve the actuarial target return over a business cycle. This measure has a direct impact on employer contribution rates and the adequacy of asset levels to finance the benefits promised to our members.

Excess Return (Gross; vs. Actuarial Target Return)

Return Period	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Total Fund Return	-16.96%	-2.21%	10.31%	2.90%	14.45%	11.34%	8.36%	-3.88%	9.42%	13.07%	5.44%
Actuarial Target Return	7.50%	7.00%	7.00%	7.00%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
1 Year Excess Return	-24.46%	-9.21%	3.31%	-4.10%	7.95%	4.84%	1.86%	-10.38%	2.92%	6.57%	-1.06%
3 Year Excess Return	-4.09%	-8.79%	-11.37%	-3.45%	2.33%	2.82%	4.66%	-1.24%	-1.90%	-0.30%	2.73%
5 Year Excess Return	-0.09%	-3.06%	-3.82%	-5.57%	-5.98%	0.55%	2.63%	0.03%	1.40%	1.14%	-0.02%
10 Year Excess Return	-0.78%	-3.21%	-3.71%	-1.80%	0.63%	0.23%	-0.05%	-1.91%	-1.93%	-2.29%	0.27%

Note: Returns beyond 1-year period are annualized.

Analysis: Through September 30, 2018, the Fund slightly outperformed the actuarial return target for the prior 10-year period. The returns for prior 10-year periods was primarily driven by the Global Financial Crisis (2008/09) and subsequent recovery. Based on elevated U.S. equity valuations we anticipate increased volatility in the equity markets over the next 3-5 years. In addition, we expect short and long-term interest rates to continue rising, which likely will have a negative impact on fixed income investments.

Annualized excess investment returns relative to Policy Benchmark

This measure evaluates investment performance relative to relevant financial market benchmarks and focuses on the effectiveness of the Fund's investment policy implementation.

Fiscal Year 2020 Annual Budget Proposal

Investments Program (continued)

Excess Return (Gross; vs. Interim Total Policy Benchmark)

Return Period	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Total Fund Return	-16.96%	-2.21%	10.31%	2.90%	14.45%	11.34%	8.36%	-3.88%	9.42%	13.07%	5.44%
Interim Total Policy Return Return	-14.16%	-2.25%	9.91%	2.35%	14.10%	11.01%	8.82%	-4.50%	10.26%	12.80%	5.70%
1 Year Excess Return	-2.80%	0.04%	0.40%	0.56%	0.35%	0.33%	-0.46%	0.62%	-0.84%	0.27%	-0.26%
3 Year Excess Return	-2.17%	-1.47%	-0.79%	0.33%	0.43%	0.41%	0.07%	0.16%	-0.23%	0.02%	-0.28%
5 Year Excess Return	-1.97%	-1.68%	-1.21%	-0.69%	-0.29%	0.33%	0.23%	0.28%	0.00%	-0.02%	-0.14%

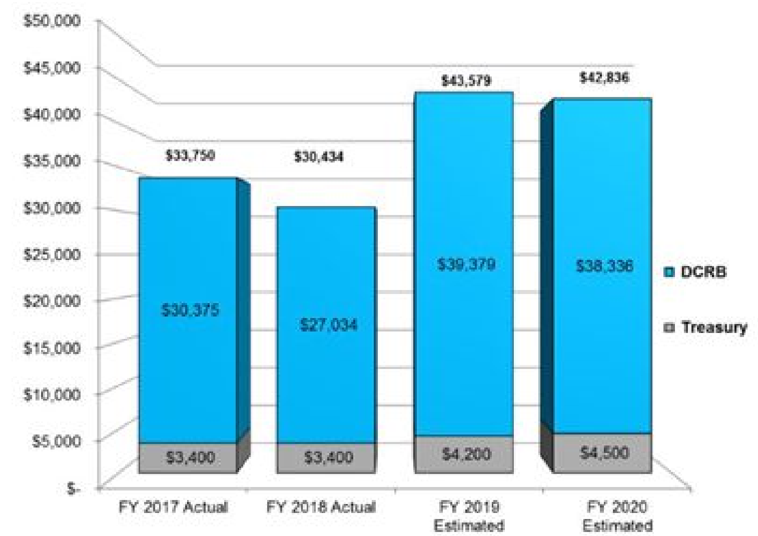
Note: Returns beyond 1-year period are annualized.

Analysis: As of September 30, 2018, the Fund slightly underperformed the Interim Policy Benchmark for all trailing periods. The underperformance was driven by the Fund's exposure to international markets. The Interim Policy Benchmark is the best gauge for relative performance over time periods of five years or shorter.

Fiscal Year 2020 Annual Budget Proposal

Department of the Treasury – Office of D.C. Pensions (ODCP)

The Office of D.C. Pensions (ODCP) is responsible for carrying out the U.S. Treasury's responsibility to fund the federal portion of the DCRB Teachers' and Police Officers and Firefighters' Retirement Plans. The proposed budget for FY 2020 of $42.8 million will represent DCRB's total spending authority, including all costs incurred while administering the pension benefits for all members, District and federal. Any reimbursement of administrative expenses from the U.S. Treasury, which DCRB gets in the form of revenue, does not increase the availability of funds to spend on programs, but merely lowers the amount of revenue required from the Fund to reach the total spending authority of $42.8 million.



In accordance with an annual Memorandum of Understanding, Treasury reimburses DCRB a percentage of the actual expenses incurred each year. The allocation is based upon the degree to which each DCRB department supports the various benefits administration activities, and the type of participants served (e.g., those with federal service, or with both federal and District service).

The actual amounts reimbursed by Treasury to DCRB for administrative services for the past three fiscal years, as shown on the table above, are as follows:

- FY 2017 Actual: $3.4 million
- FY 2018 Actual: $3.4 million
- FY 2019 Estimated: $4.2 million
- FY 2020 Estimated: $4.5 million

Fiscal Year 2020 Annual Budget Proposal

Three-Year Consolidated Financials

	Actual FY 2018	Approved FY 2019 Budget	Proposed FY 2020 Budget
Personal Services			
Regular Pay	6,219,248	8,397,266	8,342,751
Fringe Benefits	2,033,031	2,515,833	2,522,507
Total Personal Services	**8,252,279**	**10,913,099**	**10,865,258**
Non-Personal Services			
Office Supplies	93,483	125,250	107,500
Telephone	96,286	85,000	40,000
Rent	1,823,864	1,772,000	1,808,000
Travel (for due diligence, benefits, Educational & Conferences)	196,178	461,300	421,300
Prof Svc Fees and Contracts	3,797,923	12,156,070	10,552,251
Printing	78,173	58,700	80,700
Insurance	148,879	237,500	248,000
Postage	65,538	67,100	61,600
Payment of Membership Dues	39,962	43,000	49,900
Audit Costs	57,200	90,000	95,000
Actuary	169,855	176,000	176,000
Legal Counsel	531,913	625,000	600,000
Investment-related Fees	13,076,317	14,705,000	15,475,000
Contractual Services (STAR)	1,808,130	1,718,700	1,898,100
Equipment & Rental	198,734	345,000	357,000
Total Non-Personal Services	**22,182,435**	**32,665,620**	**31,970,351**
Total	**30,434,734**	**43,578,718**	**42,835,609**

Fiscal Year 2020 Annual Budget Proposal

Recent Accomplishments

- Completed Information Technology and Information Security Infrastructure Audit
- Proposed Technical Amendments to the Plans
- Distributed SPDs to Plan Members, Updated Through December 3, 2017
- Updated and Clarified Board Election Rules and modernized the Election Process
- Proposed Amendments to the Board's Procurement Rules
- Distributed Benefit Statements to all Active Plan Members of the Plans
- Reduced Waiting Time for Refunds From 60 to 90 days to 30 Business Days
- Established a Secure File Transfer Protocol Site to Receive Documents Electronically from Partner Agencies
- Developed a Process for Electronically Distributing Documents (e.g., SPDs) to Active Members
- Redesigned Data Shared Databases to Allow a Quick View of Case Disposition, History and Metrics
- Installed a New Telephone System to Improve Efficiency and to Better Serve our Members and Reduce Costs
- Adapted the Use of Electronic Tools to Target Communications with Individuals and Groups (e.g., the Electronic Distribution of SPDs to Active Members)
- Generated an Annualized Gross Investment Return of 9.3% Over the Last Three Years
- Improved Portfolio Diversification and Managed Risk Through Regular Portfolio Rebalancing
- Negotiated Investment Fee Reductions of More Than $3.5 Million Per Annum
- Began a Strategic Planning Process for Fiscal Years 2019 Through 2023
- Negotiated Limited Partnership Agreements, Amendments and other Investment-related Agreements to further Ten (10) Fund Investments

Background Information on Investment Compliance and Risk Consultant

The Investment Compliance and Risk Consultant works to ensure that the District of Columbia Retirement Board's investment program is managed within the parameters of a risk management framework that provides for an effective governance system that adheres to the Board's polices, guidelines and external regulations. This independent, but supporting role, focuses primarily on the following core activities in support of the Investment and Legal Teams:

(1) Operational and Risk Assessment for due diligence associated with existing and new investment managers;
(2) Business Review and negotiation of transactional documents;
(3) Oversight of the Investment Compliance program; and the
(4) Development of investment initiatives (i.e., Emerging Manager Investment Program) that align with the longer-term investment goals and objectives.

Extension Request for Up to Four Months

The Executive Director believes that the Investment Compliance and Risk consultant will continue to serve a critical role with the continuation of day-to-day deal support on an active pipeline of Private Markets investment opportunities that will be presented to the Internal Investment Committee, Investment Committee and Board for approval as well as longer-term projects including:

1) Development of a Strategic Framework for a Dedicated Investment Compliance function;
2) Development of a formal Operational Due Diligence process with the engagement of an external adviser with specialized expertise; and
3) Collaboration with Meketa on the successful execution of a dedicated Emerging and Diverse Investment Program.

The Executive Director will hire a Director of Risk and Investment Compliance in early 2019. If such extension request is granted by the Board, there will not be any changes in the contract price.

We appreciate your continued support.

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TO: BOARD OF TRUSTEES

FROM: MARY COLLINS, CHAIR

DATE: DECEMBER 20, 2018

SUBJECT: BENEFITS COMMITTEE REPORT

The Benefits Committee did not meet this month. The following report reflects the Benefits Department's activities and projects that occurred since the November 2018 Board meeting.

Annuitant Verification Project

As a standard best practice to ensure that benefits are not paid to deceased annuitants, staff mailed verification letters to 1,126 annuitants (a significant increase in the sample size from the 359 that were mailed in 2017). The compliance date was listed as October 15, 2018. As of December 5, 2018, DCRB received a total of 791 valid/DCRB fully certified responses from members (70%). Non-responders will be mailed additional certified letters before suspending benefit payments.

Disability Earned Income Verification Project

As a follow-up to the Board's June 2017 motion authorizing DCRB staff to discuss the annual earned income review provisions in both Plans with the Plan Sponsor, Daniel Hernandez, Jacqueline Thomas and Leslie King met with various stakeholders in October and DCHR was contacted in November for a follow-up meeting. This meeting is expected to occur in January.

Recalculations - Retired Fire Union Members and Survivors

Due to the retroactive application of salary increase provisions in the new Fire Union contract that was approved in July 2018, annuities for members who retired between October 1, 2016 and August 2018, and survivors whose annuities were calculated during that same period, will need to be recalculated. DCRB has estimated that there are around 150 annuitants who are affected. Also since those retroactive increases affect these members' active pay, the District's Office of Payroll and Retirement Services (OPRS) must process them on the active side, so that corresponding adjusted contributions can be deducted, before DCRB's recalculations can be performed. We expect that annuity adjustments will be made in either February or March 2019. DCRB will mail letters to impacted members, notifying them of the slight delay and our anticipated date of the change. A similar recalculation process will need to be performed for members impacted by the new MPD union contract approved in November 2018 (see details below).

Open Enrollment for FEHB and DCEHB Plans - November 12 to December 10, 2018

All materials for this year's health care open enrollment period were posted to DCRB's website and members were advised to contact DCRB if they preferred printed materials. The new premium amounts will be included in the February 1, 2019 annuity payment (for the month of January). DCRB Member Services staff attended four Benefits Fairs along with DCHR and health plan representatives to answer any enrollment and health plan questions. As of December 5, 2018, the Member Services Unit has received 491 Federal Employees Health Benefit (FEHB) forms and 67 District health forms. This amount is slightly higher than the 2017 total of 450.

Retiree Healthcare and DCHR Meetings

DCRB has been meeting with DCHR and District healthcare providers to discuss that DCHR's active eligibility files are overwriting the retirement records from DCRB, resulting in erroneous terminations of member health insurance. As a result of these meeting, it was determined that transferring DCRB coverage records to the healthcare provider electronically will eliminate the issue. DCRB IT is currently testing this process and plans to implement this improvement after February 2019.

New Metropolitan Police Department Collective Bargaining Agreement

On November 16, 2018, the DC Council approved a new collective bargaining agreement with the Fraternal Order of Police/Metropolitan Police Department (MPD). This new contract, which runs from 2017-2020, includes the following increases:

Oct 1, 2017	3.0%
Oct 1, 2018	2.0%
Oct 1, 2019	3.5%

DCRB has confirmed with OPRS that this contract will be retroactive and applicable to retired members. Consequently, DCRB is producing lists of impacted retired members whose annuities will need to be recalculated and who are entitled to equalization. Once this is completed, a workplan and timeline will be developed, and letters will be sent to members advising them when their annuity adjustment will occur.

Equalization

Due to the new November 2018 contact (listed above), equalization increases were applied on December 1, 2018 to Tier I Police/Fire members who retired before February 15, 1980, and who are covered by occupations in the following pay schedules: Police Nonunion, Fire Nonunion, and Fire Union. Letters were sent to affected retirees informing them of the increase in their annuity amounts.

3

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TO: BOARD OF TRUSTEES

FROM: LYLE BLANCHARD, CHAIRMAN

DATE: DECEMBER 20, 2018

SUBJECT: LEGISLATIVE COMMITTEE REPORT

The following report reflects activities of interest since the November Board Meeting:

COUNCIL OF THE DISTRICT OF COLUMBIA

A22-0516, "Teachers', Police, and Firefighters Retirement Benefits Technical Amendment Act of 2017"

The bill introduces technical amendments applicable only to members covered by the Police Officers, Fire Fighters, and Teachers Retirement Benefit Replacement Plan Act of 1998, to: (1) recognize domestic partners as eligible survivors of police officers and firefighters; (2) clarify that 401(a) plan assets may be transferred by a member into the District of Columbia Police Officers and Fire Fighters' Retirement Fund to be used towards the purchase of prior service with the District of Columbia Fire and Emergency Medical Services Department; and (3) clarify that the Internal Revenue Code § 401(a)(17) compensation limit applies to members first covered under the Police Officers, Firefighters, and Teachers' Plans on or after October 1, 2002.

Status: The bill, B22-0468, was introduced on September 25, 2017, and was enacted with Act number A22-0516 on November 13, 2018.

NO WRITTEN REPORT

NO COMMITTEE MEETING WAS HELD THIS MONTH

Certificate of Achievement in Public Plan Policy

Employee Pensions Part I | February 28-March 1, 2019 | Washington, D.C.

CAPPP®

The CAPPP® program has an established reputation for providing an educational benchmark of excellence in the public sector. Through this program, trustees and public sector policy makers obtain a solid knowledge base in the legal, legislative and fiduciary aspects of public sector benefit plans.

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Earn a certificate in Employee Pensions by attending four days of instruction. Each certificate is offered in two parts. To earn a CAPPP in Employee Pensions, attendees are required to pass two take-home exams: one for Part I and one for Part II. Attendees will be given their exams at the conclusion of each part and have 30 days to complete and return to the International Foundation for scoring.

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- Participate in an examination of the role of trustees and their relationship to other public benefit plan functions.
- Obtain firsthand knowledge shared by leading consultants and practitioners in the public benefits field.
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- CAPPP is the educational benchmark of excellence in the public sector.
- Collect valuable resource materials for future reference.
- Test your knowledge with a take-home exam.

Employee Pensions—Part II
March 7-8, 2019

Day One | Thursday, February 28, 2019

Governance

- Role and purpose of governmental plans
- Governing documents
- Duties and responsibilities of fiduciaries
- Overview of strategic planning process
- Ethical decision making
- Establishing best practices

Legal Environment

- Fiduciary liability
- ERISA applicability
- Litigation
- Legal representation

Day Two | Friday, March 1, 2019

Legislative

- Impact of federal and state legislation
- Overview of applicable state and local laws
- Integrating legislation and regulations into the strategic planning process

Actuarial Principles

- Role and function of actuaries
- Funding policy/methods
- Basic methods/assumptions
- Asset valuation methods
- Accounting for pension plan liabilities and expenses
- Experience investigations
- Actuarial reviews/audits

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DC RETIREMENT BOARD
Conference Listing
December 20, 2018

Sponsor	Name of Conference	Date	Location	Cost	Description
National Conference on Public Employee Retirement Systems (NCPERS)	2019 Legislative Conference	January 27-29, 2019	Washington, DC	Registration thru January 9, 2018 $500 After $600	The NCPERS Legislative Conference is the premier conference for public fund trustees and plan administrators, highlighting the issues on Capitol Hill and in federal regulatory agencies that affect pension funds today.
International Foundation of Employee Benefit Plans (IFEBPs)	New Trustees Institute Level I: Core Concepts	February 18-20, 2019	Lake Buena Vista, FL	Registration $1,515	Focus on your role as a new trustee, and the New Trustee Institute Level I: Core Concepts will enhance your understanding of basic concepts involved in managing your employee benefit trust funds. As an attendee, you will be able to identify your responsibilities as a fiduciary.
	Certificate of Achievement in Public Plan Policy (CAPPP) Employee Pensions-Part I	To Be Announced	Washington, DC	DCRB Sponsored	The Certificate of Achievement in Public Plan Policy (CAPPP) program is ideal for enhancing your understanding of the fundamental areas of public sector benefit plans. Provides essential education for new trustees as well as attendees in need of a refresher that addresses core concepts and current trends in legal, legislative, plan design and fiduciary aspects of public sector benefit plans.
	CAPPP in Employee Pensions-Part II	To Be Announced	Washington, DC	DCRB Sponsored	The Certificate of Achievement in Public Plan Policy (CAPPP) program is ideal for enhancing your understanding of the fundamental areas of public sector benefit plans. Provides essential education for new trustees as well as attendees in need of a refresher that addresses core concepts and current trends in legal, legislative, plan design and fiduciary aspects of public sector benefit plans.
	CAPPP in Employee Pensions-Part I and II	Part I-June 18-19, 2019 Part II- June 20-21, 2019	Boston, MA	Registration thru May 9, 2019 $1,150	The Certificate of Achievement in Public Plan Policy (CAPPP) program is ideal for enhancing your understanding of the fundamental areas of public sector benefit plans. Provides essential education for new trustees as well as attendees in need of a refresher that addresses core concepts and current trends in legal, legislative, plan design and fiduciary aspects of public sector benefit plans.
	Washington Legislative Update	May 20-21, 2019	Washington, DC	Registration thru April 8, 2019 $1,250	The program is designed for those who need to understand the legal, legislative and regulatory environment surrounding employee benefits. The content is designed for trustees, administrators and plan professionals who work with the public sector, single employer, and multiemployer.
	Public Employee Benefits Institute	June 24-26, 2019	San Francisco, CA	Registration thru May 13, 2019 $1,515	The Public Employee Benefits Institute is designed to address benefit topics most critical to public plans and share ideas and discuss important issues with your peers.
Council of Institutional Investors (CII)	Pension Fund Trustee Training-Fiduciary Fitness	4-Mar-18	Washington, DC	Registration $395	The program will cover fiduciary skills, investment skills and current and emerging practices. The morning session will focus on fundamentals and will be a great intro or refresher course. The afternoon session will cover more advanced topics.

DISTRICT OF COLUMBIA RETIREMENT BOARD
Training & Travel Report
As of December 20, 2018

Name	Description	Sponsor/Vendor	Location	Dates	
				From	To
Trustees					
No Trustee Travel					
Staff					
No Staff Travel					